Original

RFP # 201411868

Maine Malt House

Mainers take great pride in locally sourced products, so why not give them the local ingredients they long for in a local beverage they love? Our goal at Buck Farms is to start a malting facility for supplying local breweries. Malting barley requires considerable technical competence and careful attention to detail. With the proper technologically advanced processing equipment we will be able to turn locally grown raw barley into desirable conditioned malt used in craft brewing. We aspire to create malting production that provides local breweries with the high quality malt they expect, from a local source!

Applicant Information:

Jacob Buck
Marketing Manager
62 Grendell Road
Mapleton, ME 04757
(207) 227-9780
Jacob@buckfarms.net

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Amount Requested: $50,000
Amount in Matching: $240,000

Sources of Matching Funds:
-Owners' Equity, Farm Credit, and Maine Ag Development Special Projects Grant

Project Duration:
Start Date – October 2014
End Date – December 2016

Bruce A. Buck
Bruce Buck / Owner of Buck Farms

12/16/2014
Date

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II. Identification of Need/Opportunity and Justification

The Maine Malt House is a division of Buck Farms and we are currently in the process of setting up a pilot malting process. Buck Farms traditionally grows and sells potatoes and grains. With the addition of the malting facility we will be able to create a value-added product with our grains; specifically barley, which will be appealing to local Maine craft breweries. Mainers take great pride in locally sourced products, so why not give them the local ingredients they long for in a local beverage they love?

There are no fully established malt houses in Maine to date, so with the Maine Malt House, we will be introducing a new industry to Maine's economy. Initially targeting Maine craft breweries, we will be sourcing local ingredients to a market which currently takes place out of state. Since all of the malt for local Maine beers is purchased out of state, by offering malt made in Maine we will be closing a revenue loop for the craft beer industry and help boost Maine's economy.

Our family has been in the potato industry since my grandfather and great-grandfather started farming 57 years ago. We feel the potato industry is mature and we have been seeking for a niche to help keep the farm viable. There are several benefits of the Maine Malt House to the agriculture community. Upon expansion we will likely need to source malt quality barley from other local farmers. We will also have a complete grain cleaning system, which will be available to other farmers looking to clean and value add their grains. Along with the grain cleaning system, we will also have a complete grain analysis lab and we will be capable of giving other farmers the major readouts they seek, but do not currently have convenient access to, such as protein, ash, fat, etc.

The Maine Malt House will not only affect the Maine agriculture community. Many Maine businesses are involved with the establishment of the malt house. The University of Maine Cooperative Extension has and will continue to help us grow high quality malt barley and will aid us in the lab setup if needed. We are currently using a local electrician and a local plumber as we set up our facility. Our steeping vessel was put together by a local stainless steel fabricator and our drying kiln was manufactured in Brewer at Nyle Systems. The raw steel we have needed as come from Haines MFG. in Presque Isle. We have sourced as much equipment as possible through our local Maine companies. We plan to continue to use and support our local businesses as much as possible as we grow and commercialize.

III. Project Goals and Objectives

The goal of the Maine Malt House is to run a two ton pilot malting system for a year to master the art of malting based on the suggestions from the Malt Academy, which one of our members attended this spring. A year of running the pilot system would be sufficient to fully understand every aspect of the malting and how slight changes in each of the three core processes will affect the end result. It will also be sufficient time to send samples of our malt along with lab results to our customers to make them realize we are capable of providing the best quality malt in the United States! After a year of running the two ton pilot system we plan to implement a 10 ton malting system. Once we start producing malt with the 10 ton system, the two ton system will be used primarily to diversify and provide for specialty and custom malts using barley and other common grains such as wheat, oats, and rye.

IV. Deliverables

The end product for the Maine Malt House will be several different types of malt in 50 lb. bags. Initially, for most of the first year running the pilot system, we will exclusively be producing base malt, which is included in every style of beer. Once we have perfected consistent, high quality base malt we will start working on different specialty malts, such as crystal or chocolate malt (modified in the kilning stage). The specialty malts contribute to color, taste, and mouth feel of the beer. The product will be available to Maine craft breweries to purchase as soon as quality malt is produced. We will ship the malt by the pallet ((40) – 50 lb. bags/pallet) straight from our facility to the breweries.

V. Innovation

Maine grows over 40,000 acres of small grains, including barley and oats. The current major market for barley in Maine is for animal feed. A portion of the market is set aside for malt barley, which is all shipped to the Canada Malting Company. All Maine breweries are currently sourcing malt from large malting facilities. We are focusing on a smaller scale set up which is viewed as craft malting and does not exist in Maine on a sufficient scale to date.

The process of malting barley and other grains consists of three major steps: steeping, germination, and kilning (an additional step of roasting or smoking the grain after kilning can also be included to create specialty malts). Since malting is a delicate process, we will use programmable logic controllers (PLCs) to automate and control each step to ensure efficiency and a consistent product every batch.

During the steeping process, for example, the grain must go through a number of wet and dry periods (water in the tank and water drained from the tank) at a controlled temperature until a desired moisture level in the grain is reached. We are designing a steeping vessel to be controlled by a PLC, which will completely automate and control every aspect of this phase, from filling and draining the tank as needed, to blowing oxygen through the barley to expedite the germination.

VI. Degree of Risk

The Maine Malt House is entering into a high potential market with limited risks in the operation of the pilot system. Our potential is seen in the responses and enthusiasm demonstrated by the Maine craft breweries, with a cold survey response rate of almost 50% for example. The potential is also seen by studying the trends of the local malt market boom in other states, such as Colorado and New York.

A risk for the Maine Malt House is the uncontrollable weather conditions for the growing season of the barley. Weather patterns such as overwhelming amounts of rain may threaten the quality of the grain. There are two ways we plan to overcome this potential risk; 1) by treating the crop based on the conditions, as recommended by the University of Maine Cooperative Extension, and 2) by storing more than a year's worth of quality grain during a good barley harvest. We currently have enough quality barley in storage to run the pilot system for over two years, though we plan to implement a 10 ton system after a year or two of operation of the pilot system.

VII. Project Methodology and Schedule

The construction of the two ton system started in October and is still in progress. The projected time to begin malting on the system is in January 2015 and a batch will be produced every week. Test samples of the first five malt batches will be sent to the Winnipeg lab for test results and recommendations to help us fine tune the process (these are included in the cost of the class taken last spring). Each batch after this point will be analyzed using equipment acquired by the Maine Malt House to help us produce a consistent product and give the brewers the information they need to balance our malt in their beer recipes.

A base malt product will be made on the pilot system throughout the year to ensure the brewers that we can maintain a high level of quality and consistency as well as to establish our place in the malt market. After a year of malting on the two ton system, we feel we will have enough experience with the process and a large enough interest to implement a 10 ton system.

VIII. Key Personnel and Project Management

Bruce, Brent, and Barry are brothers and joint owners of Buck Farms. Jared, Joshua, Jacob and Caleb are brothers (all sons of Bruce) who are the next generation of Buck Farms *(see **appendix A** for individual resumes of Buck Farms next generation)*. It is a combined effort by all seven members to start the Maine Malt House. Each member of the family plays an important role in the decisions and progress of the new venture at Buck Farms. All team members share ideas and information for the business marketing and research as well as labor.

Joshua is the dedicated Operations Manager and was the one to attend the Malt Academy in Winnipeg. His efforts are focused on efficient and functional quality production. Jacob and Brent will be main communications persons to be in contact with the Department of Agriculture, as well as other interested parties.

IX. Budget/Budget Narrative

The cost to set up the two ton pilot malting system is as follows:

Equipment	Price	Purchased?
Grain Storage Tank + Auger	$47,000	x
Biomass Boiler + Installation	$20,000	x
Dust Extraction System	$5,000	x
1000 Gal. Steep Tank	$10,000	x
Dry Kiln	$57,500	x
Grain Cleaner & Sizer	$10,500	x
Construction Material	$10,000	
Debearder	$3,000	x
Grain Bagger	$8,500	x
Shipping	$2,500	x
Labor	$25,000	
Electrical	$10,000	
Lights	$4,500	x
Air Compressor	$3,000	x
Grain Elevators	$7,700	x
Lab equipment	$65,800	
Total	$290,000	

The next phase cost to implement a 10 ton system, according to a professional malt consultant in Canada who has seen layouts of our building, is estimated to be between $800,000 and $1 million to complete.

This request for funding is particular to lab equipment. The lab equipment breakdown is as follows:

	Item	Cost	Estimated Shipping
1	Anton Paar DMA 4500 Digital Densometer	$13,706.25	Included
2	1-Cube Mash Bath	$9,000	$500
3	Buhler DFLU Laboratory Mill	$11,000	$500
4	Lovibond Tintometer AF330 EDC	$1,261.40	$50
5	Pfuffer Friabilimeter	$6,934.47	$500
6	Perten Instruments Inframatic 8600	$21,800	$500

We are requesting $50,000 in funding to help cover the costs of lab equipment. The above basic lab equipment was recommended by Dr. Yueshu Li, Director of Malting Operations at the Canadian Malting Barley Technical Centre (CMBTC) in Winnipeg. All of the lab equipment meets market standards and certifications to be used in a commercial lab.

The matching funds for this project are a total of about $240,000 not considering the repurposed building where the malt processing facility is being installed. The total of the lab equipment is estimated to be $66,000 so we will contribute $16,000 for the complete lab. Sources of funding for the entire matching of the project are owners' equity, Farm Credit, and Maine Ag Development Special Projects Grant.

Appendix A:

Resumes of Buck Farms Next Generation

62 Grendell Road, Mapleton, Maine 04757 • (207) 227-0981 • Joshua@buckfarms.net

Joshua Buck

Summary

Dedicated hands-on Farm Manager for 3 years with 7+ years of experience covering all aspects of farm operations. Professional, flexible, creative and costumer-oriented. Diversified skill sets covering costumer relations, daily operations, cost-effective planning, managing multiple projects simultaneously.

Experience

2009 - Present | Buck Farms | Mapleton, Maine

Farm Manager

Responsible for operating and maintaining large machinery
Hire and train employees as needed
Responsible for marketing and customer relations
Organizing farm implements, tools, parts etc.
Multi-disciplinary craftsmen

Education

May 2014 | CMBTC Malt Academy | Winnipeg, Manitoba

Certificate of Completion

Extensive training on all phases of growing and malting barley

2009-2011 | Northern Maine Community College | Presque Isle, Maine

Associates Degree in Residential Construction

GPA: 3.6

Achievements

General Industry Safety and Health 30 Hour OSHA certified
Eastern Maine Champions for Varsity Hockey team

Skills

- Great communication skills
- Leadership qualities
- Well-developed trouble shooting skills
- Responsible large equipment operating abilities
- Creative problem solver

Jacob Buck

Education

B.S. EET University of Maine May 2015

Currently studying Electrical Engineering Technology
Minor in Engineering Entrepreneur
Current GPA: 3.3

Work Experience

2004 to 2011 Buck Farms Mapleton, Maine

Potato Farmer

Responsible for operating and maintaining large machinery
Design and fabricate parts as needed
Trouble-shoot and fix problems with equipment
Emphasis on work ethic, efficiency, confidence, and trust

Summer 2012 SGC Engineering Orono, Maine

Electrical Power Engineer Intern

System diagnostic and repair
Protective relay wire diagram and elementary revisions
Social networking and consulting
Emphasis on professionalism and responsibility

Summer 2013 Verso Paper Jay, Maine

Electrical Reliability Engineer Intern

Communications system troubleshooting
Power design projects
Project management
Emphasis on safety and communications

Summer 2014 Spudnik Equipment Blackfoot, Idaho

Electrical Design Engineer Intern

Altium design projects
Microcontroller programming
Start to finish control box design
Emphasis on efficiency and detail

Technical Skills

- Proficient with **AutoCAD** (two years), **Altium Designer**, and **Excel**
- Well-developed trouble shooting skills
- Responsible large equipment operating abilities
- Great problem solver

Honors

Tutor and **Lab Assistant** in EET Department
Fourth place at Skills USA for Technical CAD
Captain of Presque Isle High School varsity ice hockey team
Presque Isle High School Class of 2011 class speaker
University of Maine EET Excellent Student Scholarship

121 Grendell Road, Mapleton, Maine 04757 • (207) 227-1973 • Jared@buckfarms.net

Jared Buck

Summary

Dedicated hands-on Farm Manager for 5 years with 9+ years of experience covering all aspects of farm operations. Professional, flexible, creative and costumer-oriented. Diversified skill sets covering costumer relations, daily operations, cost-effective planning, managing multiple projects simultaneously. Specialize in grain operations.

Experience

2007 - Present | Buck Farms | Mapleton, Maine

Farm Manager

Responsible for operating and maintaining large machinery
Hire and train employees as needed
Responsible for marketing and customer relations
Organizing farm implements, tools, parts etc.
Multi-disciplinary craftsmen

Education

2007-2009 | Northern Maine Community College | Presque Isle, Maine

Associates Degree in Drafting

GPA: 3.0

Achievements

Pesticide Applicator certified
Married

Skills

- Leadership qualities
- Well-developed trouble shooting skills
- Responsible large equipment operating abilities
- Creative problem solver

Market Expansion of a National Award Winning Artisan Creamery

Prepared for:	Prepared by:
Division of Purchases Burton M. Cross Building 111 Sewall Street, 4th Floor 9 State House Station Augusta, ME 04333-0009 Re: RFP #201411868	Amy Rowbottom Clark, Manager & Head Cheesemaker Crooked Face Creamery 552 River Road Norridgewock, ME 04957 Ph: (207) 858-5096 Email: amy@crookedfacecreamery.com

I. Brief:

There is great opportunity to advance the agricultural sector in Maine, with cheesemaking at the forefront of progress. This proposal seeks to contribute to growing this industry by conducting easy to understand market research for artisanal cheesemakers to use in growing their businesses, advancing new technology that allows for new products that will help cheesemakers meet demand, and increase Maine cheesemakers' State and regional market share.

Specifically, this project will include: development of expertise in local and regional market opportunities for Maine-made artisanal cheese through market research activities; increasing potential for Maine cheesemakers to establish greater market share among smoked cheese products by development of a prototype wood fired cold smoker; and, increasing Crooked Face Creamery's market share annually in regional markets, through use of the new technology and market knowledge.

CS

MATCH: Funds Requested: $20,950 Cash Match: $2,475 In-Kind - Existing used equipment:(including cheese vat, aging room, stainless steel tables, 2 refrigerators, signage, cheese press and cheese molds) $5,000	In-Kind - Labor: ($25 per hr/120 hrs for project management) $3,000 TOTAL MATCH: $10,475

Duration of Project: January 2015 - January 2018

Date 12/19/14 Signature Amy Rowbottom Clark Title of person: Manager

Identification of Need/Opportunity and Justification:

Maine's local food movement is thriving and the previously dying farming sector is making a comeback. John Piotti, Executive Director of Maine Farmland Trust, states that "In the past 15 years, Maine has gained about 1,200 farms, and the acreage in production has increased 4 percent."

This has birthed a new, fast-growing sub-industry - artisanal cheese production. There are nearly 10 times the number of licensed cheesemakers in Maine today than there were 20 years ago (71 up from eight in the mid-1990s, http://bangordailynews.com/2013/08/02/business/maines-cheese-making-industry-on-the-rise/). Out of the 273 dairy farms in the state, over 25% have licensed value added creameries producing yogurt, cheeses and/or butter. These artisans are bringing even more opportunity to revitalize Maine's agricultural sector, and grow Maine's economy as a whole. A recent study on creating job growth in agriculture and food production (2014) written by Jeff Roberts, Co-Founder of the Vermont Institute for Artisan Cheese, proves that "Maine is the fastest growing artisan cheese producing state in the U.S." Yet there is room for more growth. As quoted in the recent article (cited above) in the Bangor Daily News about Maine's Cheesemaking Industry on the Rise, and according to the Wisconsin Milk Marketing Board (http://media.eatwisconsincheese.com), in terms of total cheese production, Maine doesn't even rank in the top five states.

Significant demand exists at home in Maine but Maine's cheesemakers are only meeting a small percentage of this demand. The overwhelmingly small scale artisanal producers sell out of stock, and primarily selling in Farmers Markets, and directly to the local community and local businesses. The vast majority are not represented in grocery stores.

Tapping into local demand, Maine's producers are uplifting local economies. But this impact could be much greater. They are also not yet tapping into the wealthier regional economies where consumers and retailers are willing to pay more for their specialty cheese. Roberts (2014) again writes, "Maine cheese stays home and most consumers beyond its borders have never heard of, let alone tasted, these excellent cheeses." Research trips taken by Crooked Face Creamery's head cheesemaker in 2013 to visit Boston's and New York City's booming artisan cheese shops confirmed that Maine cheeses are extremely rare to find outside of Maine.

Increased market share for Maine's cheesemakers means more opportunity for the dairy industry overall - as artisanal cheese production requires local milk (ideally organic and grass-fed) - and hog farming, with whey being a nutritious byproduct of many cheese recipes. Moreover, with the value added by turning milk into cheese, failing to identify and reach these potential markets is more than a missed opportunity for Maine, it is potential for prosperity, prestige, leadership of the nation's agricultural renaissance.

Maine's cheesemakers often stay small-scale. Some are hobby farmers, others in second careers and not wanting to take on risk and debt later in life. Yet more are ambitious, younger farmers seeking to grow their businesses into profitable, locally-rooted enterprises, that contribute to revitalization of the State's agriculture sector and local communities. The latter especially need

opportunity and incentives to invest in their own expansion, innovation, market development and promotion.

These entrepreneurs need easy-to-understand information on and analysis of local and regional market opportunities in order to seek out and establish relationships with various local and regional outlets. For example, who are the distributors, what are their routes/delivery schedules, what products do they market, and how much is their markup, etc., or is it more profitable to do the legwork to establish direct wholesale markets including restaurants, retailers, grocery stores, etc.

These entrepreneurs also need affordable equipment that can allow them to make consumer health and budget-conscious specialty products at scale. One area of need is for cold smoking technology as commercial smokers available on the market are not designed for cheese. They are usually electric, which has the tendency to overheat and melt the cheese. Others are homemade, poorly constructed and inefficient, with the capacity to only smoke a small amount of cheese at a time. They are often made by retrofitting old stoves or barrels that would not comply with most local and federal food safety regulations. This poses a threat to the viability of making smoked cheese, as well as food safety.

III. Project Goals & Objectives:

In order to address the above-described needs for market research and cold smoking technology, catalyzing new growth in Maine's cheese industry, the proposed project comprises the following goals and objectives:

Goal 1: Develop expertise in local and regional market opportunities for Maine-made artisanal cheese

Objectives:

1. Conduct desk and field market research on market opportunities and needs, including case studies of New England cheesemakers who have successfully scaled up their operations including Smiling Hill Farm & Pineland Farms
2. Develop a set of recommendations for Maine cheesemakers regarding best practices in accessing local and regional markets

Goal 2: Increase potential for Maine cheesemakers to establish greater market share among smoked cheese products

Objectives:

1. Design and build an affordable, efficient cold smoker that offers an all-natural process for smoking artisanal cheese in large quantities
2. Develop marketing materials to promote "wood fired" cold smoked cheese to local consumers
3. Deliver up to 3 free cold smoking classes to Maine cheesemakers during Maine Cheese Guild meetings throughout the year

4. Provide on-farm tours and demonstrations of cold smoking and other cheesemaking processes to schools, tour groups, and for special events (Open Farm Day, Open Creamery Day)

Goal 3: Increase Crooked Face Creamery market share annually in regional markets

Objectives:

1. Optimize the Crooked Face Creamery cheese kitchen to integrate the cold smoker into the cheese making process and ensure food safety and compliance with FDA regulations
2. Market Crooked Face Creamery's specialty smoked cheese for distribution, including farm-to-table restaurants and retail outlets in the Southern part of the state, expanding into New England not currently within reach of the creamery

IV. Deliverables:

This project will result in:

- A prototype wood fired/cold cheese smoker, customization options, instruction manual, and product brochure including features and benefits
- A model cheese kitchen for efficient large scale production of artisanal cheese of up to 8,000 lbs per year compared to the current production of 4,000 lbs per year
- Webpage on the Crooked Face Creamery website advertising the smoker to potential buyers of technology
- Webpage on the Crooked Face Creamery website promoting consumer benefits of cold smoked cheese
- Brochure on cold smoked cheese for distribution to 70+ licensed cheesemakers in Maine
- Revised Crooked Face Creamery branding materials to emphasize leadership in the cheese industry
- Report and presentation on local and regional market opportunities and best practices for Maine cheesemakers accessing markets shared with all licensed artisanal cheesemakers across the state
- Increased revenue over 50%

V. Innovation:

This project is necessarily innovative, as Maine's artisan cheesemakers have few resources to guide them in expanding their production capacity to meet market demand and to help them access new, high value market segments - and no available technology to help them reach the market for artisanal smoked cheeses. As a connected, award-winning cheesemaker and web-marketing specialist, the project lead, Amy Rowbottom Clark, is well positioned to conduct high quality market research for delivery in easy to understand and share formats.

The smoker built for this production is a first of its kind. It is designed by Maine Wood Heat Co., leaders in wood fired cooking and heating in Maine. With the capacity for up to 24 five pound wheels of cheese, it will allow for multiple batches to be smoked at one time, with room for growth. The existing smoker only has the capacity for smoking 4 wheels at a time. The new unit

will have variable controls for air input and exhaust output, with a desired goal of smoking at temps less than 70° F as to avoid overheating and melting the cheese. An integrated heat exchange system will ensure temperatures stay within specifications. Measuring roughly 24" square x 60" tall, the smoker will have an external vent kit option as well as an auxiliary firing chamber. The racks holding cheese within the smoker will be stainless steel and removable for easy washing.

VI. Degree of Risk:

Each set of objectives in this project is relatively low risk. Head cheesemaker, Amy Rowbottom Clark, is experienced, accomplished, and well-connected regionally amongst farmers, cheesemakers, members of the Department of Agriculture, and the University of Maine food chemistry and safety division. She won a national cheese award in just her third year of making cheese, and in 2014, she produced and earned third place for her whole milk Ricotta at the American Cheese Society Conference, the largest cheese competition in the country. Later in the year, at the Big E, she placed Gold, Silver and Bronze for her variety of herbed fresh cheeses. Her line of specialty naturally smoked cheese - a "wood fired" Gouda style cheese which has already been researched, honed and tested on the market, is the creamery's best seller. Custom smoking this cheese in the newly developed smoker will set her cheese apart from both local and regional "artificially" smoked cheeses on the market and expand her existing capacity, as well as assuring consistency, to meet market demand.

The risk that may impact the project's success will be managing initial cashflow while this signature product is being prepared for market, for example, aging cheese for a minimum of three months before sending to market. Fresh cheese will be the main product for sale in the early part of the year to generate income, as well as selling custom beef from the previous fall herd. Having to purchase milk and all necessary cultures and ingredients, without getting the return right away from the aged cheeses will be a challenge. To ensure the success of this project and reduce the above risks, preparation has already begun by years of testing our fresh cheese recipe, and immediate local wholesale and retail markets for this specific product have already been established.

Maine Wood Heat is a committed partner in the process of designing and building the custom cold smoker. There is a slight risk that the design will need to be tweaked after testing the first few batches of smoked cheese. Due to this risk, Maine Wood Heat is waiving their design fee, reducing the cost of their labor and capping the cost of the smoker to $6,000 to ensure that we do not go over budget, and the necessary adjustments can be made after it's launched.

The other risk is figuring out a cost which can be absorbed by potential distributors yet still profitable for the producer. Otherwise, committing to do the legwork to establish direct wholesale relationships to cut out the cost of having a middle man. Buying organic grass fed milk at $4.40 per gallon, in addition to buying necessary ingredients as well as factoring in time and labor, the price per pound for aged cheese can be no less than $12.50 per pound retail cost. The aged cheese is currently sold for $18 per pound. Fresh cheese, which is the Creamery's current primary cashflow in the winter months yields a bit higher than aged cheese due to a higher moisture content. The price of fresh cheese can be no less than $8.50 per pound. The fresh

cheese is currently sold for $14 per pound. Competing with larger creameries and finding the right wholesale markets that can move our products at these price points is what needs the most concentration. Knowing the cheese can be moved at the above retail costs regardless of the wholesale market research outcome, reduces the risk of a loss in product income.

VII. Project Methodology and Schedule:

All of our financials will be logged in Quickbooks. The results of our market development project will be evaluated through in-depth profit and loss reports and balance sheets run on a monthly, quarterly and yearly basis to prove the viability of our artisan cheese business. Having been in business for 5 years, we have the appropriate records and record keeping system to back this proposed project.

Year 1:

- Research and design blueprint for optimal, high capacity cheesemaking kitchen with integrated cold smoker, emphasizing efficiency and food safety
- Work with Maine Wood Heat Co. on designing cold smoker and making modifications
- Purchase necessary equipment to optimize cheese kitchen based on new design
- Integrate, test redesigned cheese kitchen, and revise blueprint as necessary
- Build "viewing room" to display and sell products and offer cold smoking tutorials
- Begin production of specialty cheeses - both a fresh cheese to generate cashflow, and our smoked aged cheese which will require a lead time of at least 3 months
- Begin market research, collating comprehensive list of distributors and wholesale markets in Southern Maine and New England
- Visit at least two New England cheesemakers who have successfully scaled up their operations and write case studies, including lessons learned

Year 2:

- Based on initial market research, revise Crooked Face Creamery website to promote cold smoked cheese
- Continue market research, gathering data to analyze distribution outlets and wholesale markets to identify a top ten markets with the most potential sustained demand and increased revenue for Maine's artisanal cheesemakers, looking at profit margins, demand consistency over time, and considering logistical, regulatory, and cost considerations
- Send cheese samples to high potential regional outlets, including specialty shops and farm to table restaurants
- Develop and print brochures for cold smoking technology
- Begin aging smoked cheeses longer than 6 months
- Develop prototype brochure for cold smoker with customization options, features and benefits

Year 3:

- Based on market research, revise Crooked Face Creamery website to emphasize new branding and attract new demand – new demand will be evaluated by analyzing traffic to the website

- Analyze response to market exploration based on potential for revenue and sustained demand and determine best new outlets to work with
- Follow up with regional distribution and begin shipping cheese throughout New England
- Write report and create presentation on local and regional market opportunities and best practices for Maine cheesemakers accessing markets shared with all licensed artisanal cheesemakers across the state
- Increase production to 5 batches per week
- Write cold smoker instruction manual
- Host at least 3 free cold smoking classes to Maine cheesemakers during Maine Cheese Guild meetings throughout the year
- Provide on-farm tours and demonstrations of cold smoking and other cheesemaking processes to schools, tour groups, and for special events (Open Farm Day, Open Creamery Day)

VIII. Key Personnel and Project Management:

1. Amy Rowbottom Clark
   a. Project Manager and main contact for proposed project
   b. Head Cheesemaker
   c. Sales and marketing manager

2. Robert & Karen Rowbottom
   a. Owners of the Rowbottom Farm
   b. Facilitators in all land and property development
   c. Assist in all financial decisions, bookwork and management of budget

3. Maine Wood Heat Co.
   a. Designers and builders of the custom wood fired smoker

IX. Budget/Budget Narrative

BUDGET WORKSHEET		
OBJECT CLASS CATEGORIES		
b.	**Personnel**	$3,000.00
c.	**Fringe benefits**	N/A
d.	**Travel**	N/A
e.	**Equipment**	$13,800
f.	**Supplies**	N/A
g.	**Contractual**	N/A
h.	**Construction**	N/A
i.	**Other**	$4,150
j.	**Total Direct Charges** (sum of 6a-6h)	$20,950
k.	**Indirect Charges**	DEPARTMETN DOES NOT ALLOW FOR INDIRECT CHARGES FROM THE APPLICANT
l.	**TOTALS** (sum of 6i and 6j)	$20,950
PROGRAM INCOME		$80,000

A. Personnel: The personnel required is exclusively project management which is estimated to be about 120 hours from ground zero to cheese production at a rate of $25 per hour. Project management entails all scheduling, construction oversight, proper equipment placement and installation, and organizing information for new marketing material. **Total $3,000.**

B. Fringe Benefits: N/A

C. Travel: N/A

D. Equipment: The equipment needed in this project is a new cheese vat with the capability to heat and cool milk - necessary for our fresh cheese production which is essential for cashflow especially in the first few months. It's also essential to purchase this larger vat because it has the ability to heat treat milk. If the FDA regulations change in the near future in terms of extending the aging requirements for raw milk cheeses, we might need to resort to pasteurizing milk for all of our cheeses and this vat would accommodate any stricter rulings in food safety requirements. The cost of the 40 gallon cheese vat is $3,000. In addition to the vat, (2) lightly used stainless steel tables are required for cutting and wrapping, and for production space, as well as a handwashing sink and double bay sink for washing equipment, a total of $2,300.
A new on demand hot water heater must be installed to provide adequate hot and cold water to the cheese vat for the heating and cooling stages, as well as to wash equipment with optimal levels of hot water. The cost of the hot water heater including installation is $2,500.
A custom wood fired smoker being designed and built by Maine Wood Heat Co. This smoker is essential for smoking larger batches of cheese, improved efficiency and food safety. Funds here

are allocated for prototype design, consulting, construction, installation, testing and adjustments, training, instruction manual, and all marketing material. This cost is capped at $6,000.

Total $13,800.

E. Supplies: N/A
F. Contractual: N/A
G. Construction: N/A

H. Other… Performing 40 hours of market research at $25 per hour ($1,000), website design revisions ($1,000) as quoted by freelance graphic designer who built the current Crooked Face Creamery website, new branding, logo development to focus on specialty smoked cheese also managed by freelance graphic designer ($650), 500 4 color tri-fold brochures (.41 per piece), 500 business cards ($66) and 500 4-color labels ($2 per sheet of 12) plus layout fees printed by Skowhegan Press ($1,500) **Total $4,150**

I. Total Direct Charges: (sum of 6a-6h): $20,950

J. Indirect Charges: N/A

K. Totals: $20,950
Program Income: 2015 gross income - $8,000 lbs of cheese sold at a wholesale minimum average of $10 per pound = $80,000

ORIGINAL

APPLICATION TO THE MAINE DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY FOR AN AGRICULTURAL DEVELOPMENT GRANT

December 19, 2014

I. Cover Sheet

Title: Developing Retail Markets for Maine Organic Poultry

Project Description and Expected Results:
Tide Mill Organic Farm is seeking a $50,000 grant to complete the financing of constructing a USDA inspected poultry processing facility on its farm in Edmunds in Washington County. The limited access to State inspected processing facilities and the lack of USDA inspected processing facilities is the primary barrier that farmers face to developing and expanding markets for poultry products. With completion of the processing facility next spring, TMOF will be able to expand sales to existing markets and accelerate new market development, including out of state markets.

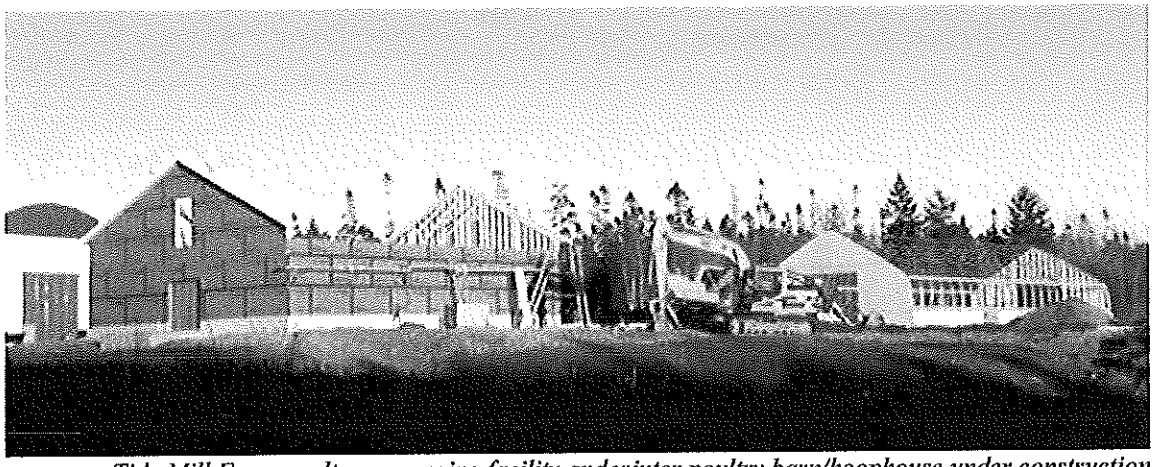
Submitted by:
Carly DelSignore and Aaron Bell, Partners, Tide Mill Organics, a legal partnership.
91 Tide Mill Road
Edmunds Township, Main 04628
H: 207-733-2551
C: 207-263-7135 (Aaron)
C: 207-263-7172 (Carly)
Fax: 207-733-2551
E-mail: eatlocal@tidemillorganicfarm.com and aarontidemill@gmail.com

Amount of grant funding requested: $50,000
Amount of match: TMOF will provide a 5.6:1 match. The match includes $280,000 in Owner's contribution of cash, materials and labor and grant funding raised from foundations, non-profit organizations and private individuals.

Duration of project: Construction began in September 2014, and the estimated completion date is March 2015.

Carly DelSignore, Partner Date: 12-10-14

Aaron Bell, Partner Date: 12.10.14



Tide Mill Farm poultry processing facility and winter poultry barn/hoophouse under construction

II. Identification of Need/Opportunity and Justification

A. Need and Opportunity

There is a big opportunity in Maine to sell more locally produced poultry. Very few retail grocery markets have a consistent supply of Maine poultry – organic or conventional. The problem is not the lack of a market for this product: when Maine produced poultry comes into the store, it sells quickly. The problem is that there are few producers who produce enough birds to consistently supply these stores. The Maine Sunday Telegram reported on December 13, 2014 that "A 2014 survey by the University of Southern Maine's Muskie School of Public Service found that nearly 80 percent of Mainers say they want to buy local, but local meats aren't always readily available..."(Source p.1)

The biggest bottleneck to expanding the markets for Maine raised poultry is the lack of state or USDA inspected poultry processing facilities. There is currently no dedicated USDA poultry processing facility in the state and only one state inspected facility in central Maine. If you are a large producer, you need dependable access to an inspected processing facility that is nearby and operates efficiently, and you need USDA inspection to be able to sell out of state.

Tide Mill Organics has more than 13 years experience growing and processing poultry. Raising broilers is already a profitable segment of our farm business. In 2013 TMOF sold $188,017 worth of poultry. We have a refrigerated truck that delivers to twenty five markets down the coast, and we cannot keep up with current demand. We are consistently sold out of chicken; our existing accounts want more birds than we can produce, and they want it year round. We have 10 - 20 new accounts in Maine that would carry our chicken if it were available.

Our business planning shows that increasing poultry production is important to the financial viability of our farm. We experience three barriers to increasing production and sales: lack of facilities to raise poultry during the winter months; our small processing

facility; and our current inspection status that limits production to 20,000 birds per year and prohibits us from contracting with other farmers to help raise chickens. We currently raise chickens on pasture from April – November and process them in a 8' by 24' foot trailer that can only be minimally be heated. We operate under the federal exemption as a Grower/Processor. It has served us well at our current levels of production, but limits our ability to expand production.

After extensive research and planning we determined that the best way to expand poultry production and further develop new and existing markets for organic chicken was to raise chickens year-round, contract with other farmers to help raise chickens for us to sell under our label, and build a USDA inspected processing facility on our farm. Because we sell a fresh, unfrozen product, it is essential that we be able to control when we process our chickens so that we can ensure that we deliver fresh product to our markets. In addition, we are interested in developing out of state markets for our poultry products. We have contacted Whole Foods and Associated Buyers, which are both interested in our poultry and for which USDA inspection would be required.

With a USDA inspected facility we plan to raise poultry production from our current level of 10,000 chicken and 500 turkeys per year to 20,000 chicken and 1000 turkeys in 2016, after which we will continue to expand production on our farm and with our farm partners.

III. Project Goals and Objectives

Our goal is to build a heated winter poultry barn/hoophouse and a USDA inspected poultry processing facility that will allow us to produce poultry year round and increase overall production. Both these facilities are now under construction and will be completed in March 2015. These two facilities, combined with USDA inspection, will let us accomplish the following objectives:

1. Raise, process and sell chickens during the winter months.
2. Produce more than 20,000 birds per year.
3. Contract with nearby farms to help us raise the volume of birds we want to sell.
4. Operate in a facility that is efficient, easy to clean and meets all food safety requirements.
5. Increase sales to existing markets.
6. Allow us to expand sales to new markets that want to carry our birds.
7. Allow us to develop out of state markets.
8. Allow us to offer year-round employment to the people who currently work seasonally helping us raise and process poultry.
9. Process poultry for other farmers and Washington County households.

Building these facilities will have clear and immediate benefits to our farm and to the farms we contract with to help us raise poultry. We project that within two years we will be selling 20,000 chickens and 1000 turkeys per year, increasing revenue from poultry production to more than $313,000 per year. Our production will continue to increase

after 2016.

It is harder to quantify increased production by other Washington County farmers who's birds we will be able to process once the facility is up and running. The volume is likely to increase. We receive numerous calls from other farms and households asking if we can process their chickens, which we are not currently permitted to do. There is currently no place in Washington County for smaller farmers and households to process their chickens. The March 2011 study conducted for the Maine Department of Agriculture, titled Poultry Processing Needs in Maine, found that many farmers had stopped producing chicken or reduced their output because of the difficulties they encountered getting their birds processed. The survey respondents stated clearly that they would produce more chicken if poultry processing were more available and affordable (p.14.)

We began construction in September 2014 and expect to be able to begin processing birds in April 2015.

IV. Deliverables

Our deliverables are concrete and measurable:

1. We will complete construction of our certified organic poultry processing facility that will serve our farms and other farms in Washington County in the spring of 2015.
2. Increased production will initially allow us to extend two current seasonal jobs to year round jobs, and will allow us to hire the FTE of one person to help with increased administration, marketing, packing/invoicing and product delivery.
3. We will contract with three farms to help us reach the 20,000 per year volume, helping the farm earn additional income and helping to revitalize poultry farming in Down East Maine.
4. In the short term we will deliver chicken and turkey to 10 – 20 new markets, and increase sales to existing markets. In the longer term we will be able to sell chicken to a greater number of markets and out of state.

V. Innovation

Building an inspected poultry processing facility on a farm is innovative in the sense that we will be the first farm in Maine to do it! We will use air chilling to cool birds, as opposed to water and ice. Air chilled birds are considered a premium product, and the process is more environmentally friendly with less water and ice needed. The birds have a longer shelf life and a lower bacteria load. We will use multiple large, high velocity fans and compressors to chill our birds instead of ice water baths.

When we have completed construction, we will turn our attention to adding a wood-chip burning furnace to our complex to heat the space and water. Widely used in Europe, this technology is relatively new to the US. However, that aspect of the project is not included in present construction cost estimates and would not be covered by the Agricultural Development Grant.

VI. Degree of Risk

We have identified and addressed the risks that could affect our project. They are:

1. **Construction cost overruns** – We have a guaranteed maximum price from our contractor. We are halfway through the construction period, and there have been no major surprises or change orders. The most complicated part of the project, the concrete floor and all of the heating and plumbing work embedded in the floor, is behind us.
2. **Food safety** – Dr. Michelle Pfannenstiel of Dirigo Quality Meats is assisting us in writing two HACCP plans, one for chicken slaughter and the other in cutting chicken into parts. She will also provide any additional training our staff needs to comply with procedures. Since we have been processing birds for 13 years, we have a lot of experience in this area.
3. **Lack of market:** Since we began producing chicken, we have always had more demand than we can supply. We have strong relationships with customers from Eastport to Portland. Our current customers want more of our products. We are currently producing 10,000 birds per year during a nine month period. Those customers want our product year round, and many of them want more than we can currently supply them on a weekly basis.
4. **Increased operating costs:** Our new facility will be more efficient than our current processing facility. With different spaces for each activity we will only have to clean each area once during a processing session. New equipment will make every processing step easier.
5. **Construction delay:** If it takes longer to complete the plan than we have estimated, we will continue to use our existing facility in early spring.

VII. Project Schedule and Return on Investment:

A. Schedule: Construction of the processing facility will be complete in March 2015, and we will begin processing in April. We will continue to process chickens under the Grower/Processor exemption in 2015 as we ramp up chicken production. In 2016 a Farm Enterprise Exemption will allow us to contract with other farms to help us increase production. We will reach production levels of 20,000 chicken and 1000 turkeys per year in 2016 and will be ready to transition to USDA inspection at the end of that year.

B. Return on Investment: There are several factors that will go into our calculation of return on investment: financial measures; job creation; efficient use of our staff and resources; soil fertility; and how it helps us strengthen our farm neighbors.

(1) **Financial:** We estimate that when we reach production of 20,000 birds per year, we will generate $81,000 in net income from the poultry operation after debt payment. We will divide net income (after an allocation to farm overhead) by the investment in the poultry processing facility to determine the return on cash

invested. Another consideration for our farm is that the poultry business provides steady cash flow to our business: we can raise and harvest birds in an eight week cycle, recouping our investment in chicks, grain and labor in a short amount of time.

(2) **Personnel:** Having a year round poultry business will allow us to extend year round employment to several dedicated, experienced, hard working staff.

(3) **Efficiencies:** Increasing our chicken volume allows us to spread the cost of existing functions over more sales. For example, the cost of our delivery truck will be spread out over more products. Our sales people can sell more items with each call. Our processors can process more chickens in one day.

(4) **Fertility:** More poultry means more chickens being raised on our pastures which adds fertility to our hayfields. The blood, feathers, offal and other inedibles will be composted and then used to fertilize hay and crop land in Washington County.

(5) **Building a farm community:** We will contract with three farms to help us raise chickens and turkeys. That brings increased revenue and fertility to those farms as well. We will work with MOFGA and the Cooperative Extension to support organic poultry farmers so they can be successful. It also means that the grain truck can come to Washington County with a full load of grain. The financial viability of our farm will increase hand in hand with the welfare of our neighboring farms.

VIII. Key Personnel and Project Management

Farm Management:

Carly DelSignore, Owner, has managed all aspects of the farm and raised and processed poultry on Tide Mill Organic Farm for more than 13 years.
Aaron Bell, Owner, has managed all aspects of the farm, including running the poultry operation for more than 13 years.

Carly and Aaron will be the lead communicators with the department for all aspects of this project.

Construction:
Jake Spencer is the General Contractor for the construction project.
Jeff Huntley is the heating and plumbing subcontractor.

Food Safety:
Tide Mill Organic Farm hired **Dr. Michele Pfannenstiel** to assist with developing the HACCP plan and USDA inspection. Dr. Pfannensteil is a veterinarian whose business specializes in developing food safety systems that create a culture of food safety.

Financials:
Rose Creps was a former Small Business Administration business planner housed at Androsocoggin Valley Council of Governments. Coastal Enterprises hired her to work with farmers on business planning in their Ag Services Division. She has her own

financial consulting practice, with a strong interest in working with farms.

IX. Budget/Budget Narrative

A. Budget

Budget Worksheet - Poultry Processing Plant

Object Class Categories

a. Personnel		
b. Fringe Benefits		
c. Travel		
d. Equipment	$74,920	
e. Supplies		
f. Contractual		
g. Construction	$453,755	Grant funding will go towards
h. Other	$23,825	general construction.
i. Total direct charges		
j. Indirect charges		
k. Totals	$552,500	

Program income over 3 year grant period : $183,264

Sources of Funds

a. Grants	$253,250	Match
b. Owner's equity/in-kind	$26,750	Match
c. Loan	$200,000	Not included as match
d. Indiegogo - in progress	$22,500	Not included as match
Total	$502,500	
Requested grant	**$50,000**	
Total funds with grant	$552,500	
Match	$280,000	
Ratio of Match to grant	**5.60**	

B. Budget Narrative:

TMOF is requesting a $50,000 Ag Development Grant to complete the financing of its Poultry Processing facility. The total cost of the Poultry Processing Facility is $552,500. TMOF has been raising funds to construct the Poultry Processing facility and Winter Poultry Barn since January 2013.

A. **Description of Cost:** See Section X for a detailed breakdown of the construction budget.
B. **Match:** Our grant request is to accelerate new market development for Maine agricultural goods and falls within the market promotion scope of this grant. We are, therefore, required to provide a 50% match to the grant funds requested. We have more than met the match required with the funds we have already raised for

the project, as well as with our own investment of cash, time and materials. None of the funds included in the match are from any public source.

Specifically, we have raised $253,250 in grants from private sources, including seven individuals, one foundation and one food business oriented non-profit organization. We, the owners, have contributed $26,750 in equity and in-kind materials and labor. We are in the midst of an Indiegogo campaign to raise a net of $22,500 for this project through crowd funding. With 80 donors at the time of submitting this application, we are approaching the halfway mark of the campaign. In addition, we received a $200,000 loan from the Washington County Commissioners TIF fund **not** counted towards the match.

X. Supporting Documentation:

Construction Budget Detail:

1. Equipment Budget Detail:

Equipment list for Poultry Expansion	
	Cost
Eviscerating Line Conveyor	$18,250
SP30 Ashley Sure Pick	$6,900
Poultry Man Rotary Scalder-42 gallons. 34,000 BTU output, propane	$3,820
Walk in cooler	$12,000
Meat Lugs...12 each	$500
Barrels and dollies, need 6 - 10	$750
Stainless Steele table-3	$1,200
Handwashing Sinks, 6	$3,000
Air chilling equipment	$15,000
Double Seal Packaging machine	$13,500
Grand Total	**$74,920**

2. Other Cost Detail:

Other Expenses	
Building Permit	1,160
Septic Design & Survey	1,750
Architect & Engineering	8,540
Food Safety consulting	7,375
Financing Fees	5,000
Total	23,825

3. Construction Budget Detail:

Tide Mill Farm Construction Estimate - Jake Spencer- 7/24/14

Item	Total
Processing Facility	
Sitework	35,000
Concrete	22,000
Ceilings & Coverings	10,000
Plumbing	75,000
Heating	75,000
Electrical & Lighting	20,000
Landscaping & Paving	0
Wall Framing	29,522
Wall siding underlayment	1,000
Floor Framing	13,703
Roofing, Framing	14,720
Roofing, Flashing	8,542
Exterior Trim & Decks	0
Siding	0
Windows	3,996
Screens	1,791
Doors	9,578
Roll up doors	10,074
Insulation	8,800
Mechanical room & shed	9,000
Interior walls	4,800
2nd Floor Walls	1,206
FRP	28,067
Floor coverings	4,000
Millwork & Trim	2,880
Cabinets & Vanities	960
outside landing & stairs	3,700
nails	5,000
Contractor's Fee	32,680
Contingency	22,735
Total Processing Plant	453,755

The pricing contained herein will remain valid and binding for a period of 180 days from the date and time of the bid opening.

Increasing Maine Agricultural Markets & Nutritional Awareness
Of Maine Crops through Elementary Education

Description of Project: This project will expand current and future markets for Maine Agricultural products through the composition, printing, posting and presentation of agriculturally correct materials to elementary students. Maine Agriculture in the Classroom (MAITC) and industry professionals will create elementary level books and activities on Maine products and coordinate distribution and presentation by volunteers to schools across the state. Each classroom with a presentation will receive a copy of the materials for continued use with their students. All materials will be posted online at *www.TeachMEFoodandFarms.org* for use on electronic devices used in schools and home schooling initiatives across the nation.

Name of Applicant: Willie Sawyer Grenier
Title: Maine Agriculture in the Classroom Executive Director
Address: 28 State House Station, Augusta, ME 04333
Phone: 207.287.5522
Fax: 207.287.7548
E-Mail: maitc@maine.gov

Original

Requested Funds: $10,000.00
Matching Funds: $20,000.00 plus in-kind & over 900 volunteer hours, per year
$10,000.00 Industry funds
10,000.00 Funds committed Maine Ag License plate funding

30 hours / 10 Industry group members' for composition, per year
5 hours / 16 volunteer organizers, per year
3 hours average / 150 volunteer readers, per year

Duration: January 15, 2015 – June 1, 2016

This proposal and the pricing contained therein will remain valid and binding for a period of 180 days from the date and time of the bid opening.

Willie Sawyer Grenier
MAITC Executive Director

December 17, 2014

II. Identification of Need / Opportunity and Justification

Data from the 2012 USDA Farm to School Survey show that 86% of the Maine schools surveyed were participating in local procurement at some level. 92% of these programs were working with grades K – 5 students. http://www.fns.usda.gov/farmtoschool/census#/state/me . The leading Maine school districts using Maine foods have identified one of the most significant barriers to increasing local procurement as student consumption. "Students just do not know about many Maine products because there is little or no consumption at home. Education must start by teaching students how these local foods are grown, and engaging them in harvesting, cooking and eating them." (Ellen Libby, University of Maine Cooperative Extension FoodCorps Program Leader) "If they (students) have never eaten fish, grown vegetables, or been given an understanding of whole grains, we cannot expect them to appreciate them on their lunch tray!"

Data from Maine's largest school district in greater Portland shows their local food procurement levels approaching 40%. One of the main objectives this year in those schools will be introducing local fish, meat and produce through thousands of taste tests in the school cafeterias. "If it doesn't look familiar and the students don't know what it is, or how it is grown, they are reluctant to eat it. Through food education, school gardens, and taste testing we are bridging this gap." (Ron Adams, Portland School Food Service Director) And the learning does not stop here. Reports from parents of their children asking for these products at home follow their exposure at school. The more Maine students we can expose, and families, the better.

Since April 2014 MAITC, in collaboration with the Maine Aquaculture Association, has created an elementary level reading book with 28 pages of full color pictures and text describing the farming of plants and animals in Maine waters. Volunteers from education and the industry have participated and provided the rational, background and pictures to create the reading book and accompanying activity book. These funds will be used to print and distribute this book for the volunteer reading program "Agriculture for ME" in March 2015. This program was started in 2008, and now includes volunteers in all 16 counties reading to up to 600 classrooms in grades PK – 4, representing approximately 12,000 students.

The growing collection of books is also distributed to pre-service teachers in college year three and four, and practicing teachers across the state. It is really incredible how little many of our college students know about agriculture. [As I teach college juniors and seniors, which potentially will be in their own classrooms in 2 years or less, I find they have no idea how their food is grown or processed.] The good news is that they are eager to learn! With materials like these they can learn right along with their students!

Through funding from this grant over 12,000 students will receive information, with full color Maine pictures, and activities on Aquaculture (2015) and another commodity (2016). If each student eats just one more school lunch or makes one purchase in the next year at $3.75, which would mean a $45,000.00 increase in revenue for these farmers in 2015. Since we are talking about lifelong awareness and behavior changes for these students the potential is infinite.

III. Project Goals and Objectives

The project goals are:

1. To print 600 sets of materials per year for 2015 and 2016.
2. To distribute materials to 150+ volunteer readers per year, and match with local classrooms.
3. To increase awareness of local food products and their nutritional value.
4. To increase procurement of Maine products in school cafeterias.
5. To increase student and family consumption of local Maine foods.

IV. Deliverables

In 2015 & 2016 - 28 page, full color reading book for elementary students.
- 20 page activity book with educational activities

1. The book for 2015 is now in final draft form and will be completed by January 15, 2015 and ready to print. The activity Book will be completed by February 1, 2015. Grant funding will be used to print 600 copies of each. (see budget narrative for details)
2. Up to 16 organizers have historically participated in volunteer recruitment in their school, county, or region. Additional volunteers are coordinated by the MAITC office. The remainder of the funds will be used for postage to mail the materials to volunteers unable to receive the materials in person.

All materials will be aligned to state and national teaching standards to satisfy school curriculum requirements. Each classroom participating will retain the materials for future use. [When I read new materials to classrooms across the state the students are proud to show me where the other books from previous years are kept and share or ask questions about their favorite page.]

"These books fit very well into my Maine Studies curriculum," says Kristen Wescott, a fourth grade teacher from Limerick, "It is the first time that we have had books with the story of Maine products and full color pictures of Maine farms and farmers for the students to see."

In the spring, in Washington, Maine, when the high school students are finishing their study of sustainability is the right time for them to mentor younger students. "Each year they volunteer to read about agriculture to the elementary school and they transform into teachers, an empowering experience for them." says Don Sprangers, teacher at Washington Academy.

"I look forward to volunteering every year!" says Bev Kelley, a farmer from Albion. "The kids in my grandsons' classes really don't understand what farmers do. It is great to have a nice book with Maine pictures to show them. The dairy book is my favorite so far, of course. I am a dairy farmer!"

V. Innovation

Innovative aspects of this project include:

- Creation of accurate, informative non-fiction materials about Maine agriculture using industry partners, farmers and processors,
- Furnishing these materials to thousands of Maine students in hundreds of classrooms,
- Organization of hundreds of Maine volunteers willing to read to classrooms,
- Building on growing programs for local food procurement in Maine school cafeterias,
- In 2015, promotion of Maine Aquaculture and products in Maine schools.

VI. Degree of Risk

This application poses very little risk because we are asking to continue a program that has already proven itself by its success in the past. The program began in 2008 in 150 classrooms using pre-written general agriculture books. In 2010, responding to teacher and volunteer requests, MAITC started writing Maine specific books supported by National AITC Excellence Grants from USDA. This year these grants are no longer available. The book has been written and the activity is nearly complete. This Ag Development grant funding will ensure that this project will move forward for 2015 and 2016 covering costs for printing and distribution. Schools are signing up already and many of the readers are already committed to participate. For many volunteers it is an annual event. You can see the three past books, lessons and activities at http://teachmefoodandfarms.org/resources.

VII. Project Methodology and Schedule

2015

- January – Print the reading book and finalize classrooms & volunteers
- February – Print Activity book & begin mailing/distribution to volunteers
- March – Volunteer reading in 600 classrooms & establish 2016 industry partner
- April – Finish any readings or late requests and start book meetings for 2016 materials
- May to December – Meet with industry representatives, collect pictures, concepts, text

2016

- January – Print the reading book and finalize classrooms & volunteers
- February – Print Activity book & begin mailing/distribution to volunteers
- March – Volunteer reading in 600 classrooms
- April – Finish any readings or late requests
- May & June – Evaluate and complete final grant reports

VIII. Key Personnel and Project Management

Willie Sawyer Grenier – Oversee all program responsibilities - Resume Attached

IX. Budget/Budget Narrative

BUDGET WORKSHEET	
OBJECT CLASS CATEGORIES	
a. Personnel	
b. Fringe Benefits	
c. Travel	$400.00
d. Equipment	
e. Supplies	$8,800.00
f. Contractual	
g. Construction	
h. Other	800.00
i. Total Direct Charges (sum of 6a-6h)	
j. Indirect Charges	DEPARTMENT DOES NOT ALLOW FOR INDIRECT CHARGES FROM THE APPLICANT.
k. TOTALS (sum of 6i and 6j)	$10,000.00
PROGRAM INCOME	NA

Budget Narrative

a. Personnel – none

b. Fringe Benefits – none

c. Travel – $200.00 per year for Committee and graphics meetings at $.44 per mile

d. Equipment – none

e. Supplies – $4,200 per year for 2015 & 2016 for Printing of 600 books and Activity Guides per year. Books are 9" x 9", 28 pages full color @ $5.35 each. Activity Guides are 8.5" x 11", 20 pages (reproducible) @ $1.65 each.
- $200 per year mailing supplies – envelopes, boxes, etc.

f. Contractual – none

g. Construction – none

h. Other – $400.00 per year postage to mail a portion of the materials to volunteers across the state. The rest of the materials are distributed to volunteer organizers in person or through the industry partners' direct connections.

Matching Funds

- $20,000.00
  $10,000.00 Industry funds ($5,000 annually)
  10,000.00 Funds committed Maine Ag License plate funding ($5,000 annually)

- In-Kind commitment = Over 1,800 volunteer hours
  30 hours each for 10 Industry group members for composition of materials annually
  5 hours minimum for each of 16 volunteer organizers to distribute materials annually
  3 hours on average for 150 +/- volunteer readers to read to students annually

X. Supporting Documentation –

- Willie Sawyer Grenier - Resume
- Letter of Support – Ellen Libby, Cooperative Extension / FoodCorps
- Letter of Support – Blair Currier, School Nutrition Director, Yarmouth Schools

416 Winslow Road,
Albion, ME 04910

207-437-2099
williecd@uninet.net

Willie Sawyer Grenier

Experience **1998 – Present Maine Agriculture in the Classroom**

Executive Director Major Duties

- Maine *Project Food, Land & People* (FLP) Coordinator since 2001.
- Organize and Facilitate In-service and Pre-service Educator workshops using *FLP, The Wild Blueberry Curriculum, Growing a Nation, Farmer Grows a Rainbow* and additional Agriculture Literacy materials approved by the program.
- Maintain MAITCA database, currently with over 3000 entries, oversee monthly e-newsletters 10 – 12 per year.
- Supply resources and materials on Maine Agriculture in response to requests from teachers and students.
- Organize MAITC Summer Teacher's Institute – A 5 -day training for about 25 teachers at rotating locations across Maine.
- Organize project *Read "ME" Agriculture* with over 150 volunteers in 600 Kindergarten through fourth grade classrooms for 12,000 students.
- Write National and local Grants and submit yearly progress and final reports for each.
- Submit yearly Annual reports for USDA, Project FLP and the Board of Directors.
- Formulate the yearly budget and individual budgets for all programs and trainings.
- Worked with the Maine Department of Agriculture to collect data and create the *"Finding the Food and Clothing Around You" An Agricultural Resource Guide for Maine Teachers* in 2006.
- Served as the Eastern Region Director for the National AITC Consortium Board since 2005, treasurer in 2007 - 09.Currently chairman of National Teacher Awards and Recognition Committee.
- Organize AITC Regional Meetings of 13 Eastern States with my counterpart from Maryland since 2005.
- Work with the MAITC Council on programming, materials, volunteers, fundraising, membership, and additional issues.
- Represent MAITCA as an exhibitor and presenter at conferences, workshops, and meetings of partners or commodity groups as requested.
- Work with the selected MAITCA Teacher of the Year to submit National scholarship and recognition programs. Four times Maine teachers have had the honor of receiving a National award.
- Represented MAITC on Statewide boards including; Maine Farm to School and School Garden Network, Grange, Maine Nutrition Council.
- Coordinated creation of "Teach ME about Food and Farms" lesson site and teacher professional development site.

Education

1972–1976 Lawrence High School Fairfield, ME

- Graduated with honors

1976 – 1980 University of Maine Orono, ME

- Received Bachelor of Science degree in Agricultural Education
- President of the UMO Horsemen's Club 1978 – 1980.

Community

Albion Planning Board Secretary 1992 – 2002, Chairman 2003 – 2012.
Albion Community Players 1995 – 2002
Clever Clovers 4-H Organizational Leader 1998 – 2001

Professional Awards & Organizations

1998 – 2001 Kennebec County Cooperative Extension Executive Board
2003- *Project Food, Land and People* award for Outstanding Program Leadership
2004-The David McKeen Memorial Award for Outstanding Service – Farm Days
2008 Honorary State FFA Degree
2004- 2014 Eastern Region Director for National AITC Organization
1995 – present Maine State Grange
2002 – present Maine State Grange Agricultural Committee
2013 – Katherine O. Musgrave Public Service Award
2012 – present Maine Nutrition Council

Interests

My family – my Animals – my children.
Dancing, My son's sports, My daughter's dancing. Reading

Narrative

I grew up on a dairy farm, that I still live on and own a portion of. My parents were Maine farmers. My grandparents were Maine farmers. My uncle still farms my grandfather's farm in Farmington and he is educating the community continually. He too is passionate about the future of agriculture.

THE UNIVERSITY OF MAINE
Cooperative Extension
Putting Knowledge to Work with the People of Maine

Knox-Lincoln Counties Office 377 Manktown Road Waldoboro, Maine 04572-5815
(207) 832-0343, 1-800-244-2104 FAX: (207) 832-0377 email: cekl@umext.maine.edu

December 17, 2014

Jessica Nixon
Director, Market Development
Maine Department of Agriculture
Augusta, ME 04333

Dear Ms. Nixon:

As University of Maine Cooperative Extension's host supervisor for Maine's FoodCorps program and Council Chair for Maine Agriculture in the Classroom, I am writing to express my strong and enthusiastic support for the proposal *Increasing Maine Agricultural Markets & Nutritional Awareness of Maine Crops through Elementary Education* being submitted by Maine Agriculture in the Classroom. Through this grant, Maine Ag in the Classroom will be able to create more educational materials, geared to elementary students, to enhance the awareness of Maine's agriculture and aquaculture products. The "Agriculture for ME" volunteer reading program which has been happening for a week in March since 2008, has successfully introduced students to Maine agricultural products through the unique, specially created Maine books and lesson guides such as Blueberries for ME, last year's popular book. Personally, I have displayed these colorful, educational books at many national conferences and workshops related to education, food service and agriculture. They are a big hit and help to promote Maine products!

This year's book, "Aquaculture for ME" is very timely as the University of Maine has received a substantial grant to establish a Sustainable Ecological Aquaculture Network (SEANET) program in Maine. The book will serve to educate elementary students about the many facets of aquaculture as well as introduce them to potential marine science and food industry careers. Volunteer readers, including FoodCorps members, will also be doing lessons on aquaculture and taste tests of recipes like kelp slaw and seaweed pizza featuring Maine sea vegetables to enhance and deepen the educational experience.

Thank you for all your efforts on behalf of Maine Agriculture. I would be happy to provide additional support documents if needed. Thank you for considering this very worthy proposal!

Sincerely,

Ellen B. Libby

Ellen B. Libby
Extension Educator, 4-H Youth Development and FoodCorps Maine Host Site Supervisor

YARMOUTH SCHOOL DEPARTMENT
101 McCartney Street
Yarmouth, Maine 04096
www.yarmouthschools.org

"Empowering All Students to Create Fulfilling Lives in a Changing World"

December 17, 2014

Dear Sir/Madam,

It is my pleasure to write a letter of support for Willie Grenier's proposal being submitted for the printing and distribution of "Agriculture for ME" in March of 2015.

As an avid supporter of local foods in the school cafeteria, I know how important it is to cultivate this knowledge if we are to increase the interest and consumption of these foods. A book centered on Maine agriculture will do just this. It isn't enough to expose students to new foods in the cafeteria, they also need to learn about it in the classroom and take this information home to their family. This unified approach is what it will take to make this movement successful.

In conclusion, I fully support Ms. Grenier's efforts at the state level as she seeks external funding. The work of Maine Agriculture in the Classroom is imperative and this project would have far reaching impact.

Sincerely,
Blair Currier
School Nutrition Director
Yarmouth Schools

Establishing Cover Crop Seed Cleaning Capability inside the State of Maine, with associated demonstration of growing practices.

Aurora Mills & Farm LLC 408 Burton RD Linneus Maine 04730 207-521-0094 Cell 207 694 0014 E-Mail auroramills@pwless.net

Aurora Mills & Farm LLC is a well-established organic grain farm, with existing value added capacity to clean and process food grade cereal grains into flour and rolled oats. We seek to increase our existing cleaning line to be able to clean and separate smaller seeds by adding two machines, a dodder mill and a spiral separator. In our farming practices, we need to add no till planting and swathing, to demonstrate the growing techniques needed by us and other farmers to successfully grow the cover crops used commonly in the state. In addition, we propose to demonstrate the use of no till planting and multiple in season cover crops to improve manure management around food safety issues.

Funds requested $50,000. Matching funds in kind ($500,000 existing facility and machinery) and matching cash as needed from our cash flow and commercial credit and equity.

Duration cleaning on line in 2015, Growing data in 2016

Matthew S. Williams
Managing Partner Aurora Mills & Farm LLC

Original

Identification of Needs Opportunity and Justification:

USDA census 2012 shows that Maine has 1.5 million acres of farm land, of which there is approximately .5 million acres of crop land. The average cost of cover crop seed per acre would range from $18 to $80. Most crop land is being seeded with cover crop either, at the end of the season or under seeded seasonally for annual crops. Perennial crops in a 3 to 5 year cycle. It probably represents about $20 million leaving the state as imported products expenditures. Most, if not all farms need cover crops for multiple benefits to their production systems and soil quality. Most farm supply firms import cover crop seed and instate seed companies' trial and repackage imported bulk purchases. With the exception of cereal grains used for seed, the cover crops and perennial forage seeds are not grown in the state.

USDA is stimulating cover crop utilization through its EQIP cost sharing programs from NRCS and other FSA programs. In addition, they are advocating multiple cover crops in the same season to reduce pesticide and nutrient loss from grower's soils that can negatively impact the environment. Reducing that loss can also reduce growers cost significantly, since they are no longer losing valuable inputs. These practices may raise the annual expenditure for seed three to four fold.

Irrigated crops, in particular, need improved soil quality to both increase water infiltration and holding capacities. This makes good cover crop management necessary to get the return on investment in irrigation. Manure applications, although an affordable soil quality input, face increasing scrutiny and regulation around food safety issues. Multi-species cover crops offer increased potential to capture and distribute nutrients from inputs like manure, applied the summer before the food crop is planted, giving growers well over the 6 month separation being advocated by food safety regulators. Multi crop systems will require no till planters to meet seeding and plant development needs of different crops within the same field and season.

What is lacking in the state, is farm to market harvest cleaning and storage capability and capacity. We also lack common farming practices and methods needed to take these crops through to viable seed production. These practices and associated equipment are readily available in other states and can and will be adopted by Maine's farmers when markets and value added capacity exist.

As a state, we should look at what we spend on purchases from outside the state, and if we can find a means to produce that inside the state, at less, equal or even slightly more we would benefit since the economic benefits would accrue to state and local economies rather than to the import origins' economy.

Project Goals and Objectives:

To add additional cleaning machines and devices to our existing grain and seed cleaning system, to allows us to meet purity standards for small seeded forage and cover crops. Medium red clover, annual ryegrass (Westerworld ryegrass), vetch, buckwheat, tillage radish are all grown and used in Aroostook County. Canadian and mid-western seed production data on clover and ryegrass, suggests yield ranges 300 to 800 lbs. per acre with lower yield values on clover, indicating that one acre of Maine grown seed should supply approximately 25 acres of cover crop seed at the higher seed rates for each species. Production system will require swathing, since shatter loss for almost all these crops will start at moisture levels of around 40 %. Mechanical desiccation, through swathing verses chemical desiccation will allow the crops to continue growing past seed harvest, letting them continue as cover crops. We want to establish a crop production system that allows for a multi cover crop system and mechanical desiccation by using no till planting and swathing equipment. Existing clover crops in our rotation can be seeded to buckwheat or tillage radish after the first harvest and the seeds can be easily separated by our cleaning process.

Deliverables:

A diverse cover crop cleaning facility can be on line in two months, with the addition of two cleaning machines added to our present line and will fit inside our existing building. Production practices established for multi crop cover crop system using no till planting method. No till will be used to plant into existing crop seeding's to acquire multiple benefits in the same cover crops season. Custom cleaning to other growers will be available immediately since we already offer those services in our milling. Existing USDA certified commercial laboratories can be used to certify purity and germination. Establishment of safer manure incorporation into food grade crop growing systems, through using no till to extend the time period between application and crop growing and the use of cover crops to capture and release nutrients efficiently can be establish in the 2015 growing season and planted in the 2016 growing season. These will be applicable to both organic and conventional production methods. We will be able to present seed cleaning programs at the agricultural trade show in 2015 and the first yield data in 2016. Field days on growing and cleaning can be organized with the help of Cooperative Extension or NRCS locally.

Innovation:

First to establish grass, legume and brassica cover crop seed cleaning capability inside the state. Manure application timing to allow summer and immediate incorporation, combined with cover crop management to preserve and enhance nutrient availability brings duel benefit in food safety issues labor and machinery availability at the farm level, especially for row crop farmers.

Degree of Risk: Low

Aurora Mills & Farm LLC has a proven innovation record with the establishment of the first farm to market flour milling established in Maine in 2002. That has since been copied by other Maine businesses. We also have in staff agronomy experience with new crop development skills. Pollination required by some of the crops is easily met with native pollinators and commercial pollinators are available due to other major pollinated crops grown in Maine and extensive distribution system already exist with imported cover crops. Cover crops are grown in many states and a multitude of production guides are available to growers.

Project Methodology and Schedule:

Establish commercial seed cleaning capacity in 2015. Use existing cover crop established in 2014, as first seed source. Inter crop buckwheat and tillage radish in established clover with no till seeder, after first seed harvest 2015. Spread and incorporate manure on fields scheduled for wheat in 2016 during late July-early August 2015, plant to cover crop immediately after manure, plant early as possible spring 2015. All varieties of seed used will be open pollinated or public domain varieties

Key Personnel and Project Management:

Matthew Williams, managing partner Aurora Mills & Farm, LLC, has extensive farming experience; 12 years of milling and grain cleaning experience, 19 years of organic grain growing experience and 22 years as a faculty member of the University of Maine Cooperative Extension. In that capacity, he had key roles in Extensions' support of the development of broccoli, barley in rotation with potatoes, barley grown for malting and soil cover crop practices in potato and grain rotations. Sara Williams partner Aurora Mills & Farm LLC, 2nd generation farmer with extensive experience in design, quality control and installation of horticultural crops. Marcus Flewelling: 7 years Crop Protection Services, expertise on farm supplies marketing and distribution in Maine

Budget/Budget Narrative:

Aurora Mills & Farm LLC has in place extensive investment in milling cleaning and farming equipment valued at $500,000, which are used to meet the needs of its' organic flour and rolled oats business. The grant funds requested are needed to bring into the operation the small seed separation and cleaning, by adding a Rice Dodder Mill and a spiral separator. For the growing practices swathing equipment and associated pickup head for our combine is needed. For the in season multi crop cover crop production and manure management modification, a no till planter is needed. We have sourced most of this equipment as used, located inside the state for the swather and pickup head both of which are used in canola or buckwheat production. The price

ranges listed on the budget page are based on the current ranges quoted by the purchase source, assuming a mid-winter availability

Additional Equipment needed for Cover crop seed production	
Growing	
Used Swather	$ 3500-$8000
Used Pickup head	$4000-$6000
Used No Till drill	$20000-$30000
Subtotal	$27500-$44000
Cleaning	
Rice Dodder Mill	$9500-$11000
Spiral separator	$1500-$2800
Bagging scales	$1300-$2500
Subtotal	$12300-$16300
Trucking machines from Illinois	$1000
Outside labor need for modifications and wiring of machines	$1200-$1800
Totals	$42000-$63100
In Kind	
Processing building and existing cleaning machines	$280000
Grain Storage and drying facilities connivance	$20000
Combine tractors tillage equipment	$200000

Web sites for references

http://www.omdc.on.ca/film_and_tv/Ontario_Film_Commission/Ontario_Production_Guide.htm

http://www1.foragebeef.ca/$foragebeef/frgebeef.nsf/all/frg109/$FILE/annualryegrass.pdf

http://www.hort.purdue.edu/newcrop/afcm/index.html

http://www.mccc.msu.edu/documents/ManagingCCProfitably.pdf

1. *https://attra.ncat.org/.../dow...*

Good Shepherd
Food-Bank
Feeding Maine's Hungry

Project Proposal Cover Sheet

Title of Proposal: Modern Storage Facility for Year-Round Distribution of Local Farm Produce to Food Insecure Mainers

Brief description of project objectives and results expected:

Our objective is to construct a modern produce storage facility at our warehouse in Auburn, using the latest produce storage technologies and sectioned off with varying temperature and humidity controls, to safely store for year-round distribution fresh fruits and vegetables purchased and donated from Maine farms. The infrastructure and technological upgrades are crucial to sustaining and growing local agricultural channels to provide low-income Mainers with access to Maine produce. We expect the construction phase to be completed by the end of 2015 allowing the year-round distribution of over 2 million pounds of local produce per year to begin in 2016.

5

Name/Title: Kristen Miale, President
Good Shepherd Food Bank

Address: 3121 Hotel Road / P.O. Box 1807
Auburn, ME 04211

Telephone: (207) 782-3554

Fax: (207) 782-9893

E-mail: kmiale@gsfb.org

Amount requested: $50,000

Amount of match: $1,200,000 committed from Next Generation Foundation ($1,000,000), donated labor and other pending financial resources ($200,000). The total project cost based on detailed estimates is $1,250,000.

Duration of project: Our plan is to complete construction of facility by the end of 2015 to allow for produce storage and distribution beginning the winter of 2016. Follow-up demonstration and evaluation of the storage facility will continue through the three-year term of the grant.

Authorized signature: Kristen Miale

Name/Title: Kristen Miale, President

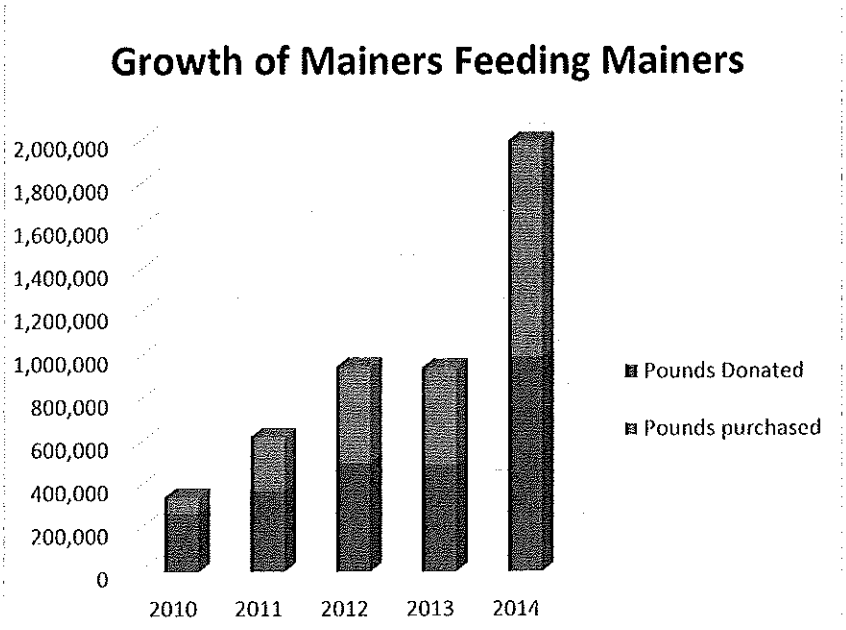
Date: 12/15/14

II. Identification of Need/Opportunity and Justification

Maine's rate of food insecurity (15%) is 18th highest in the nation and highest in New England. Nearly one-in-four (22.8%) Maine children are at risk of hunger, also the highest rate in New England. There are over 200,000 food insecure people in Maine, who simply cannot afford fresh Maine produce. For these Maine people, hunger and obesity have become an inter-related problem. The reason is simple: when you have limited resources to spend on food and you don't know when you'll have more money to spend, you buy as much food as you can as inexpensively as you can. All too often this leads to purchases of quick carbohydrates – white bread, pasta, ramen noodles, and soda – which are calorie-dense and void of nutrients, leaving us with a generation of people who are overweight and undernourished. Not surprisingly then, these people also have higher rates of type II diabetes, high blood pressure and heart disease. Poor health causes people to miss work, not be able to care for their children, have less money to spend on basic necessities because their health care costs are so high. All these factors contribute to the continuing vicious cycle of poverty.

The paradox in Maine is that there is such an abundance of fertile farm land (1.3 million acres) in this highly rural state, and yet there is a very evident need for the opening of local food channels to hunger relief organizations; and for the development of sustainable local food acquisition and distribution systems that assure that food insecure families and individuals have greater access to nutritious local fruits and vegetables year round.

In 2010 Good Shepherd Food Bank started its Mainers Feeding Mainers program which connects low income families with locally grown produce. Mainers Feeding Mainers is a partnership between Good Shepherd Food Bank and Maine farms to eliminate hunger in Maine. It involves opening local food channels with the help of trusted purchase partnerships, and developing strategies to assure safe and efficient distribution of nutritious food to hundreds of hunger relief programs serving in all 16 Maine counties.



The Mainers Feeding Mainers program was established in 2010. In its first full year (2010), the program acquired and distributed just over 350,000 lbs. of Maine-grown produce. In 2014, Mainers Feeding Mainers safely distributed 1,048,160 lbs. of purchased farm product and 1,002,871 lbs. of donated produce from Maine farms for a total of 2,051,031 lbs.

Small and mid-size farms are the focus of our "buy local" program. Mainers Feeding Mainers operates on the principle that purchase partnerships with farmers – as opposed to always looking for food donations –are essential to opening local food channels. Through these trusted purchase partnerships, Good Shepherd Food Bank can bring a

new market (consisting of 200,000 low-income, food insecure people) to Maine's agricultural economy.

With a strong and growing funding collaborative of Maine and New England region foundations and with the support of individual and corporate donors, we will continue to sustain the purchasing power of the program well into the future to give Maine's food insecure people access to more nutritious fresh locally grown foods while making a substantial contribution to Maine's agricultural economies.

The greatest obstacles to continued growth of the program are the inadequacy of our existing cold storage facilities, and the aging systems and technologies that support them. Our cold storage consists of a refrigerated area that lacks humidity controls; and a large freezer space serviced by an inefficient energy system. Both are inappropriate for extended storage of fresh produce, and do not help us achieve our goal of year-round distribution of Maine produce.

In 2013, we began to study the impact of adding a modern facility specifically designed for safe and extended produce storage at our Auburn warehouse and its costs. The total costs for the construction of a produce storage facility that could be sectioned into zones with varying temperature and humidity settings, and the upgrades to our electrical, refrigeration and technological systems to create the infrastructure for year-round produce distributions came to $1,250,000. The recent award of a $1 million grant from the Next Generation Foundation of Maine for this project has provided the opportunity to see this project to completion by the end of 2015.

The $50,000 grant from the Agricultural Development Grant Program will bring us to our fund development requirements. Equally important, the grant will bring the Division of Agricultural Resource Development on board as a valuable partner in this project that will fundamentally change Maine's hunger relief network's ability to get Maine-grown fruits and vegetables to low- and lower-income Maine people throughout the year.

III. Project Goals and Objectives

The project goal is to construct a modern 115,000 cu. ft. produce storage facility at the Good Shepherd Food Bank warehouse in Auburn. The facility will include temperature and humidity controls and a curtain system that will allow partitioning the area into up to three distinct controlled environment zones.

The objectives of the project are:

1. To construct a technologically modern produce storage facility to allow for safe, cost-effective extended storage of local fruits and vegetables being acquired from Maine farms (through purchases and donations)
2. To safely extend the long-term storage life of root and other durable vegetables for distribution to hunger relief programs year-round
3. To field test, working closely with the University of Maine Food Sciences Department, farmers and other resources, new techniques for improved short and long-term storage of various Maine-grown produce and produce varieties; and to help pass this knowledge on to the Maine farm community
4. To reduce the amount of produce that becomes spoiled before it can be distributed

5. To upgrade the heating, electrical systems and structural integrity of the existing roof that will be supporting the facility to be more energy-efficient, less costly and to minimize the risk (through system failure) to the stored produce

The overall project includes the following components:

Project Code	Component	Cost Estimate	Notes
	Construction of the modern 115,000 cu. ft. produce storage facility with temp and humidity controls	$ 466,000	We are recommending a 90X40 cooler expansion. This represents a 130% increase in space over our current capacity to meet our produce distribution goals and achieve year-round distribution of produce, especially from Maine farms. Facility layout allows us to utilize two existing walls and make the best use of the land space.
	Curtain system	$ 40,000	Allows flexibility to create 3 separate temp/humidity zones.
	Plumbing work	$ 10,000	For new produce storage facility
	Racking and equipment	$ 80,000	For new produce storage facility
	Refrigeration and heating equipment mechanical upgrades (Mechanical Option#3)	$ 295,000	Update an antiquated system near end-of-life and expand the system to handle the additional 115,000 cu. ft. produce storage facility.
	Roofing replacement	$ 239,600	Replace a leaking metal roof that threatens safety of food inventory with an efficient membrane over existing roof.
	Electrical work	$ 19,400	Will result in $38,000 est. annual electric and heat savings
	Critical IT upgrades	$ 100,000	To replace obsolete and phone and computer systems crucial to efficient statewide distribution of food
	Total Project Costs	**$ 1,250,000**	

Auburn Facility Improvements for Next Generation of Hunger Relief

New Produce Storage Facilty

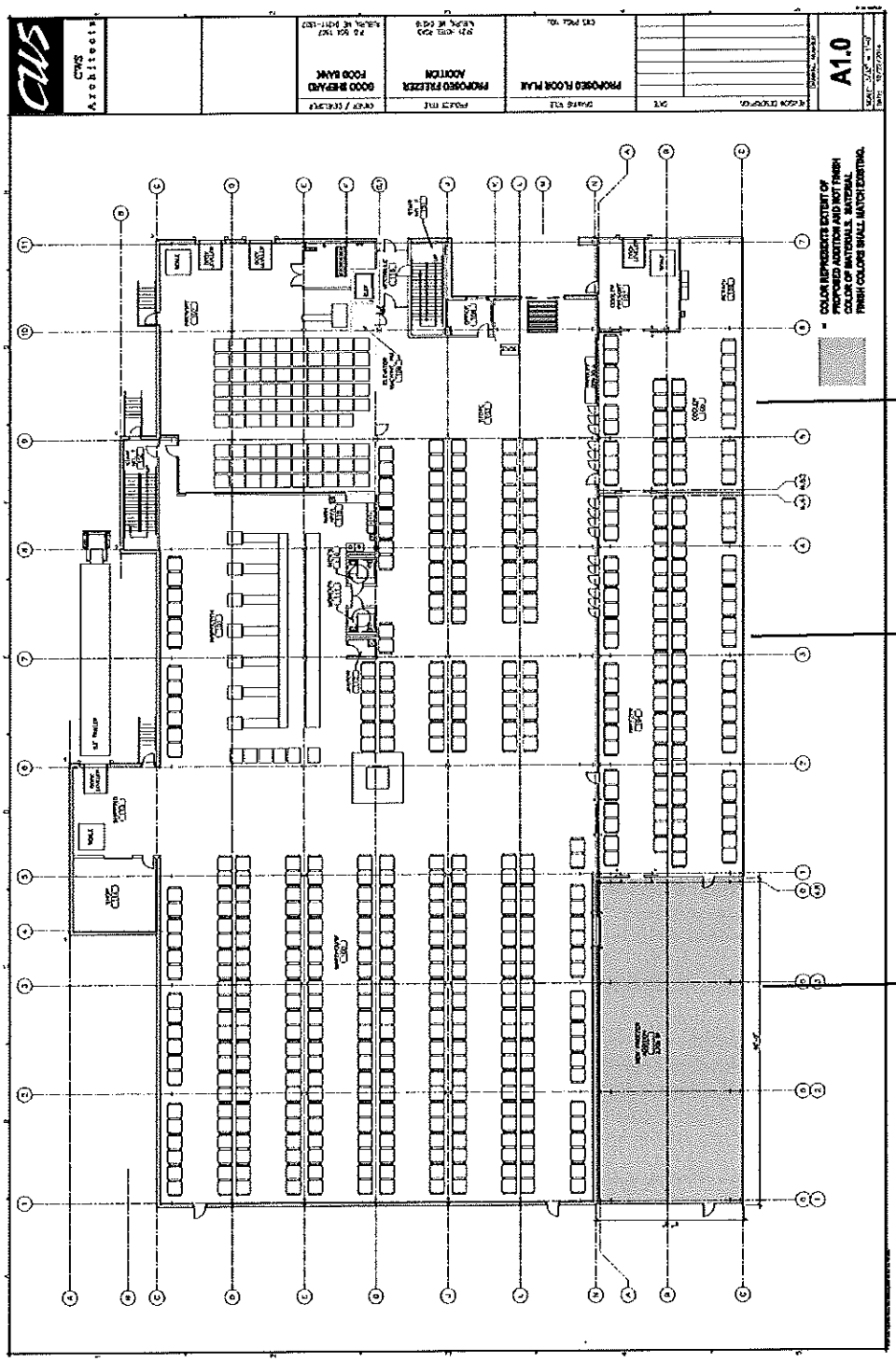
Critical Warehouse Upgrades

Critical IT Upgrades

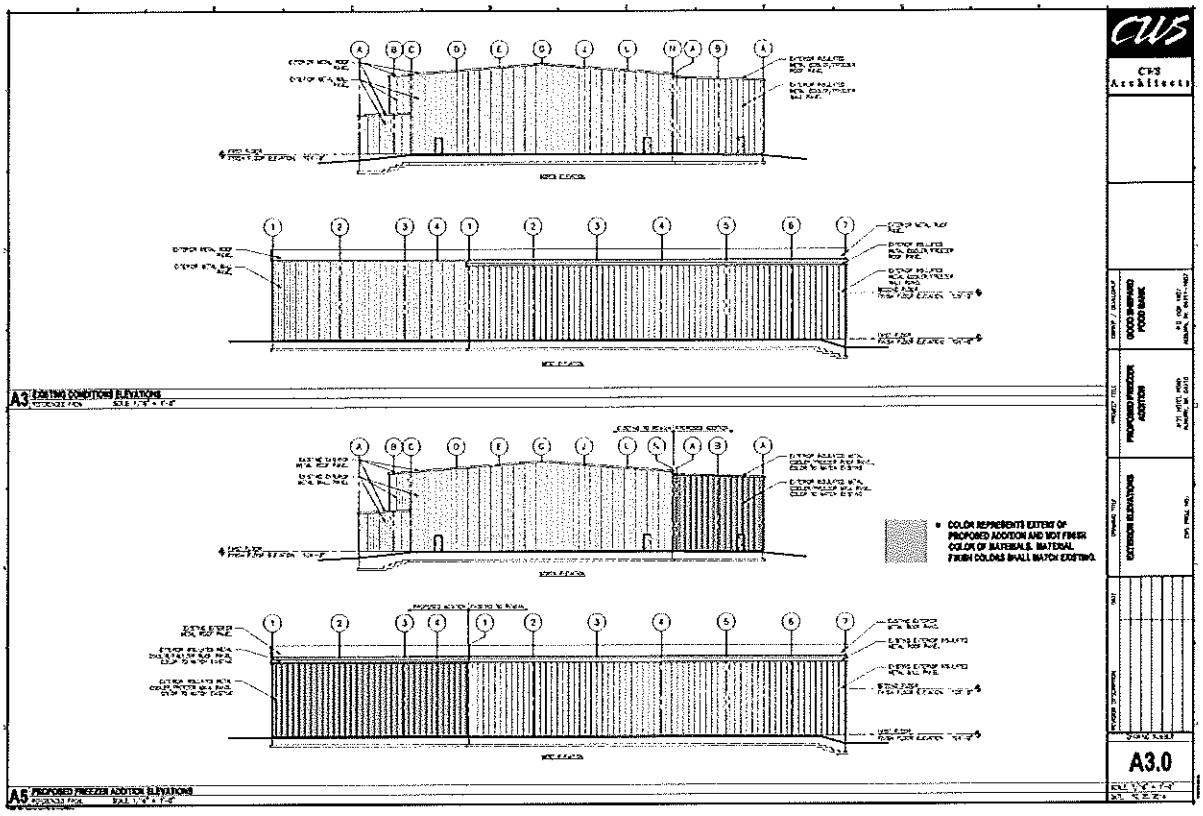
We propose to utilize the Agricultural Development Grant Program funds specifically toward the first component listed, the construction and equipping of the produce storage facility. More specifically, we propose to use the funding for the root crop storage curtain system (est. $40,000) and the root crop room air units (est. $14,000). Any costs over our $50,000 request will be covered by other funding sources.

IV. Deliverables

The primary end products of the project will be the produce storage facility itself and the impact assessments that follow. The plans for the facility are provided on the next two pages. Our plan is to have the facility constructed by the end of 2015 and in operation by January 2016.



Over the remainder of the three-year grant period, we will continue to update the State of Maine on the operational metrics of the facility, including pounds of produce in and out of the facility, types of produce, length of time of storage and other metrics. Interim reports will be filed in a timely manner as required and requested by the state agency.



V. Innovation

Innovation is at the heart of the proposed produce storage facility, both in the physical plant itself and in the programs that it will serve. There is no other produce storage facility in Maine that utilizes the latest technologies and best practices for short- and long-term storage of produce for Maine's 200,000 food insecure individuals. The facility allows for increased purchasing of Maine-grown produce at win-win pricing during the growing season for year-round distributions to needy Maine families. Full accessibility to healthy Maine fruits and vegetables becomes a year-round reality, benefitting both Maine farmers and their food insecure neighbors.

Innovation is also what drives the programs that the facility will serve. Mainers Feeding Mainers will be the primary beneficiary, making it possible for this Food Bank program to increase produce acquisitions during the growing season, and especially at the end of the growing season, at discounted prices that still benefit farmers who otherwise would be letting the produce spoil on the fields. An abundance of nutritious fruits and vegetables now characterize all of Good Shepherd Food Bank's programs, including our Food Mobile, Nutrition Caravan, School Pantry, BackPack and Cooking Matters programs.

We are the only food bank in the Feeding America network of food banks that now purchases 100% of its produce from local growers. Innovative infrastructure and operational updates are necessary to making this initiative possible, especially on a year-round basis. For this reason, we will continue to work closely with our farm partners in exploring ways to utilize the new storage facility to advance the win-win nature of the Mainers Feeding Mainers program. We are also establishing relationships with the agricultural research programs in the University of Maine

system to assure the continued use of, and possible testing of, new produce varieties and operational practices to extend the shelf life of Maine-grown produce.

The produce storage facility and related infrastructure upgrades will ensure food safety, increased perishable food storage and distribution capacities, and technological upgrades giving us the ability to provide needy Mainers substantially greater access to nutritious foods through 2024 and beyond.

VI. Degree of Risk

There is a risk that food insecurity in Maine will significantly decline and the need for fresh farm produce by low- and lower-income Mainers will diminish in coming years. There is also the risk that Good Shepherd Food Bank will not be able to sustain its abilities to acquire Maine produce through our partnerships with Maine farms, thereby reducing the need for effective, safe short- and long-term produce storage.

However, all indicators are that neither scenario is likely. Even as the economy rebounds and if the Maine community succeeds in substantially shortening the lines at Maine's food pantries and soup kitchens, the need to replace unhealthy processed foods with fresh, local produce in the diets of low- and lower-income families means that the hunger relief network's need for produce storage will be with us for the long-term. So will the need for healthy, growing partnerships between the Food Bank and Maine farms.

The need for effective year-round produce storage will also intensify as our brokering efforts on behalf of Maine farmers and food banks throughout New England and possibly New York grow beyond the pilot stage as expected. New England food banks are currently purchasing most of their produce from Midwest and Canadian sources. For the past year, we have been meeting with the New England Cluster of Food Banks to pilot produce sourcing from Maine farmers. A pilot project involving the purchase of potatoes and carrots will be implemented with the Boston Food Bank in 2015.

VII. Project Methodology and Schedule

The proposed project complies with the intent of the DACF Commissioner to test and demonstrate new technologies related to the production, storage or processing of state agricultural products. Good Shepherd Food Bank has met with R&D personnel at the University of Maine/Orono to develop and test current and new practices for the safe and effective short- and long-term storage of Maine produce. We will continue to partner with UMO Food Sciences personnel in developing new technologies for produce storage.

The anticipated project methodology and timeline follows:

Project Construction Phase	Begins	Completed
Groundwork and foundation:	4/1/15	5/1/15
Box construction:	5/1/15	7/31/15
Doors/finish work:	7/21/15	8/8/15
Sprinkler	7/31/15	8/8/15
Electrical/plumbing	7/21/15	8/8/15
Mechanical upgrade	7/1/15	8/31/15
Proofing equipment	8/31/15	9/11/15
Remove old equipment	9/11/15	9/18/15
Roof extension and upgrades	9/18/15	10/31/15

Project Implementation Phase

The produce storage facility is expected to be operational to begin receiving produce acquired through the Food Bank by the end of October 2015. Storage will be both short-term for immediate distribution to and pick-up by our hunger relief partners; and long-term for winter-spring distributions. We will keep detailed records on the amounts and type of produce stored, and length of storage time, and compare these with previous years. This data will be included in interim and final reports due to the State of Maine.

We will work with our farm partners and UMO personnel to develop and test current and new practices for effective and efficient storage of produce, including the testing of varieties of produce in our quest to extend produce shelf-life. Testing of ways of storing produce, including the use of light processing techniques to extend storage life, is expected to begin immediately in 2016, the first year of operation of the produce storage facility.

VIII. Key Personnel and Project Management

Kristen Miale, president of Good Shepherd Food Bank, will provide overall executive administration and direction to the grant project.

Sam Michaud, vice president of operations, will serve as the Project Director. He will oversee the day-to-day administration of all activities related to the grant project.

Nancy Perry, director of the Mainers Feeding Mainers program, will oversee all produce acquisition and storage data collection activities related to the grant project.

Bob Dodd, vice president of development, will be the primary grant contact and grant manager. He will be responsible for completing and filing all required grant reports on a timely basis.

IX. Budget/Budget Narrative

Budget Narrative

We propose to use the grant funds to reach our funding needs for the new storage facility construction. Specifically, we propose to use grant funds for the following key components of the facility:

Curtain system for sectioning off space for separate temperature and humidity controls	$40,000
Root crop room air units	$10,000
Total	$50,000

Local Match

The matching share for the project will come from the $1 million grant from the Next Generation of Maine Foundation for the construction of the produce storage facility and upgrades to the roof, heating and electrical systems at our existing Auburn warehouse facility. For the purposes of the match specifically for the construction component, we anticipate the following:

Next Generation Foundation of Maine	$546,000
Agricultural Development Grant Program	$ 50,000
Total for facility construction component	$596,000

BUDGET WORKSHEET	
OBJECT CLASS CATEGORIES	
a. Personnel	
b. Fringe Benefits	
c. Travel	
d. Equipment	**$ 50,000**
e. Supplies	
f. Contractual	
g. Construction	
h. Other	
i. Total Direct Charges (sum of 6a-6h)	**$ 50,000**
j. Indirect Charges	DEPARTMENT DOES NOT ALLOW FOR INDIRECT CHARGES FROM THE APPLICANT.
k. TOTALS (sum of 6i and 6j)	**$ 50,000**
PROGRAM INCOME	

X. Supporting Documentation

All necessary information has been incorporated into the responses above.

Original

I. PROPOSAL COVER SHEET

5

WILD BLUEBERRY COMMISSION OF MAINE

AGRICULTURE DEVELOPMENT GRANT PROGRAM RFP # 201411868 PROPOSAL, State of Maine, Department of Agriculture, Conservation and Forestry

TITLE: 2015 Wild Blueberry Real Foods Pick Wild Trade Program

PROJECT OBJECTIVES & RESULTS EXPECTED:

The Wild Blueberry Commission of Maine proposes to build upon the existing "Pick Wild" campaign by developing a new incremental trade program that will capture a larger share of the blueberry ingredient business for Maine's special Wild Blueberries. The program is designed to stimulate short and longer term ingredient demand by developing and communicating a persuasive "wild value proposition" that will influence real food brands to "Pick Wild" as the unique blueberry ingredient of choice for their products, and as a result, increase sales of Maine's Wild Blueberries.

NAME/TITLE: Wild Blueberry Commission of Maine
Nancy McBrady, Executive Director
5784 York Complex – Suite 52
Orono, ME 04469-5784
TEL: 207-581-1475
FAX: (207) 581-3499
E-Mail: nancy.mcbrady@maine.edu; Patricia Kontur pkontu71@maine.edu

FUNDS REQUESTED: $50,000

MATCH: $150,000.00 (funded by Maine Wild Blueberry Tax)

DURATION: Year-long (January 2015 – January 2016)

The proposal and pricing contained herein will remain valid and binding for a period of 180 days from the date and time of the bid opening.

Signature
Nancy McBrady
Executive Director
Wild Blueberry Commission of Maine

12.16.15
Date

II. IDENTIFICATION OF NEED/OPPORTUNITY AND JUSTIFICATION

The 2014 Maine Wild Blueberry crop, at over 105 million pounds, will represent a 17% plus increase over the 2013 crop, making it one of the largest on record. Because Wild Blueberries are not genetically improved and do not tolerate handling in the fresh market, over 99% of the Wild Blueberry crop is frozen and sold into both the retail frozen market and the ingredient market. In fact, over 60% of the Wild Blueberry crop is sold as an ingredient to food manufacturers, bakers, the foodservice industry, and nutraceutical (e.g., supplements) producers.

As the cultivated blueberry industry aggressively increases its acreage and production and its fresh market becomes more saturated, a larger percentage of the cultivated crop is moving into the ingredient market (also known as the "trade market") once dominated by Wild Blueberries. The cultivated blueberry industry produced 703 million pounds in the U.S. and Canada in 2013 alone according to the North American Blueberry Council, October 2014. Further, South American countries such as Chile are actively entering the cultivated blueberry market in the U.S., placing additional pressure upon Maine's Wild Blueberry growers and producers. In the face of this competition, Maine's Wild Blueberry industry requires aggressive and inventive marketing and promotion efforts to capture its share of the premium end of the blueberry ingredient market.

To those ingredient companies and brands that produce and appreciate high quality "real foods" (e.g., sustainable, non-GMO, non-artificial and nourishing), Wild Blueberries are already seen as the superior blueberry ingredient. However, there are many brands and brand buyers who have not yet come to that understanding. To protect and grow Maine's Wild's Blueberry trade business, it is critical that we identify more of these high value blueberry ingredient prospects and tell them our story in a thoughtful, persuasive and effective fashion. The Wild Blueberry Commission of Maine therefore requests that the Agricultural Marketing Development program provide funding in the amount of $50,000 that will be invested into the new **Wild Blueberry Real Foods Pick Wild Trade Program.** This program addresses the Department of Agriculture, Conservation and Forestry (DACF) Commissioner's priority to focus on alternative markets or diversification.

Ingredient customers (e.g., brand managers, new product developers, ingredient procurement specialists) need to be aware of the positive taste, health, performance and value that Wild Blueberries will contribute to their products. To date, our trade and consumer marketing efforts have focused on educating the consumer about the premium qualities and advantages of Wild Blueberries. Now, with trends towards real foods, natural foods and healthy foods on the rise, the Wild Blueberry industry must actively pursue this alternative market. Wild Blueberries are well positioned to play a starring role in a number of real food categories. However, we need in-depth and documented research to reinforce our message, as well as a targeted plan to tell it to a diverse set of trade ingredient prospects.

The Wild Blueberry Commission is an independent State agency that works on behalf of over 510 grower/processors in Maine (USDA-NASS 2012 Census of Agriculture). The Commission was established by Maine statute to "conserve and promote the prosperity and welfare of the State and the wild blueberry industry" of Maine. 36 M.R.S. § 4301. The mission of the

Commission includes "implement[ing] programs and activities to promote and advertise wild blueberries." Id. at § 4311-A. The Commission often achieves this goal through collaboration with the Wild Blueberry Association of North America (WBANA), a trade association of Maine growers and processors of Wild Blueberries. Both WBANA and the Commission have an excellent working relationship with marketing group Ethos, based in Westbrook, which has developed the initial trade program concept. The **Wild Blueberry Real Food Pick Wild Trade Program**, if funded, will allow the Commission to discharge its statutory duties to realize the promotional goals and objectives of Maine's Wild Blueberry industry.

A majority of Maine's 510 growers sell their product to six Maine processors who freeze ninety-nine (99) percent of Maine's crop to make individually quick frozen (IQF) Wild Blueberries available all year round at retail supermarkets in the U.S. and in export markets. Less than 1% of the total crop production is available as fresh Wild Blueberries from late July to mid-September at some local and regional grocery stores, farmers' markets and farm stands. Given the robust Maine Wild Blueberry harvest in 2014 and the growing wave of lower priced cultivated blueberries flooding the ingredient market, the Commission believes that it is imperative to pursue additional funds to help us build a better program for identifying and turning more blueberry ingredient prospects into customers – and they in turn will purchase more of Maine's unique Wild Blueberry crop and benefit Maine's growers and producers.

III. PROJECT GOALS AND OBJECTIVES

The specific goal of the **Wild Blueberry Real Foods Pick Wild Trade Program** is to develop and execute a concerted trade effort that will win more Wild Blueberry trade ingredient customers, thus increasing sales of Maine's frozen Wild Blueberries. This goal will be fostered in the short, medium and long-term.

Short-Term:

- The program will undertake detailed consumer and trade research to identify prospects and document the premium value of "Wild" and real foods.

Mid-Term:

- Using this research, the industry will convert its findings into compelling trade documentation and multi-media presentations, as well as build a segmented database of ingredient business prospects.

Long-Term:

- Nurture and develop ingredient business prospect into valued customers for years to come.

The program's goal will be accomplished through the following objectives:

- Identify prospects: top blueberry ingredient products, current "champions" (ingredient users) of Wild Blueberries and ingredient decision-makers (buyers) at key companies that do not currently use Wild Blueberries.

- Promote and support current Wild products to our online community more regularly to generate social buzz for products that use Wild Blueberries.

- Document the value of Wild through consumer research and interviews with our champions.

- Build deep and compelling media content for key decision-makers.

- Get the Wild story out to key decision-makers.

- Establish a long-term approach to turn prospects into valued future Wild Blueberry ingredient customers.

IV. DELIVERABLES

As described above, the anticipated result of the program will be increasing the amount of ingredient buyers of Wild Blueberries, translating into more sales of Maine's Wild Blueberries. In making this goal a reality, Ethos will create a number of targeted deliverables which will be shared with the DACF and the Wild Blueberry industry. The **Wild Blueberry Real Foods Pick Wild Trade Program** will deliver the following:

- Multi-Media Presentation and Video(s)

Based on proprietary consumer research aimed at determining (1) consumer perceptions and purchasing decisions relating to Wild Blueberries and (2) documenting the stories of why current ingredient buyers value and utilize Wild Blueberries in their products, Ethos will create a compelling multi-media video presentation for prospective brand managers and buyers that explains the consumer trend towards natural and real foods and why Wild Blueberries are an essential element of that trend.

- Create New "Why Wild Blueberries" Trade Section of Website

A new section of the wildblueberries.com website will be built (called "landing pages"), devoted to delivering in-depth Wild research results and video aimed at educating brand managers and buyers about the value of choosing Wild Blueberries as a real food ingredient.

- Create "Why Wild" Video Card Direct Mail Tool

A direct mail tool often used in marketing, a specific video card containing information similar to the multi-media presentation and videos described above will be created and sent directly to

prospective brand managers and buyers. This will reemphasize the message for them to visit the new trade landing pages of the website, thus reinforcing the message of real foods and Wild.

- Results Reporting

Ethos will track and record traffic to the new landing pages, the number of prospective brand managers and buyers that it adds to the segmented database it will build, and be in communication with Wild Blueberry processors to determine the successful acquisition of new trade clients/accounts. High-level results will be compiled in an annual report that will be shared with the Department of Agriculture, Conservation and Forestry (DACF).

V. INNOVATION

The **Wild Blueberry Real Foods Pick Wild Trade Program** is an innovative concept that provides the Maine Wild Blueberry industry with both a short and long term approach to building its trade ingredient business. The program will give the industry the highly customized research data and tools it needs to identify, segment and prioritize its prospects and nurture relationships using media and technology to make the selling process more efficient, effective and measurable. A distinct real food and Wild value proposition and methodology for nurturing key ingredient business targets is critical for the survival of Wild Blueberries in the increasingly competitive ingredient market.

Further, the **Wild Blueberry Real Foods Pick Wild Trade Program** is a new, focused effort by the Maine Wild Blueberry industry to diversify within the trade ingredient marketplace. Rather than rely on established relationships to maintain or hopefully grow sales of Wild Blueberries, through this program the industry will be making a concerted effort to understand and maximize its place within the growing real foods movement and to better communicate the industry's value as a Wild, real food to key decision-makers within the ingredients trade. In addition, this effort will allow the industry to target new trade customers in the real foods market who are not using Wild Blueberries but could make the switch to make new, alternative Wild Blueberry products.

VI. DEGREE OF RISK

Despite the large-scale undertaking of starting a detailed consumer research program and building a multi-media platform to tell the value of Wild to potential new customers, long-term the risk of this program is minimal. The program will use the latest research techniques, communication approaches and database-building best practices to identify and nurture ingredient business leads for the Wild Blueberry industry.

The Commission is willing to commit $150,000 of its marketing dollars into the development of this new trade approach but needs an additional $50,000 in DACF grant funding to get the program fully up and running – the goal is for the program to be delivering leads and sales in 2015. The 2014 robust harvest demands the creation of more ingredient-selling opportunities than ever before; just a few big sales on the ingredient side of the Wild Blueberry business can mean big volumes for the industry. Wins in 2015 will highlight how building a more modern

approach to ingredient trade business building can help an important Maine agricultural sector succeed in an environment that is more and more competitive.

There is a clear likelihood of success with this program. We will be creating and sustaining a vast new network of potential ingredient buyers throughout the U.S. and North America while tapping into the emerging real foods market. Any new relationships with key contacts at ingredient companies will be a win for the industry, and converting those relationships into increased sales for Wild Blueberry products would be significant.

VII. PROJECT METHODOLOGY AND SCHEDULE

The **Real Foods Pick Wild Trade Program** is based on the following methodology, ultimately aimed at capturing a larger share of the specialty blueberry ingredient business for Maine's Wild Blueberry business.

1) Research Efforts

A. Identifying Prospects, Champions, and Brand Decision-Makers

- Undertake research to augment existing knowledge and develop a robust list of key products/brands that use Wild and that use regular blueberries as ingredients.
- Categorize and prioritize a list of targeted companies, brand managers and champions.

B. Consumer "Value of Wild"

- Conduct consumer research documenting why consumers put a premium on natural and real foods and Wild when making purchasing decisions. Results will build the case for brand managers and brokers to use Wild Blueberries in their products.

C. Document Trade Usage

- Document existing trade stories of why certain companies are using Wild ingredients. This helps build the "why" behind the consumer trend towards natural and real foods and why Wild helps position brands to take advantage of this trend.

2) Multi Media Presentation and Video

- Integrates research and trade stories into a compelling presentation.

3) Getting the Message Out to Brokers and Brand Decision-Makers

- Processor Training
  - Ethos trains processors how to deliver multimedia presentations to brokers.

- Create "Why Wild" Blueberry Landing Pages for Trade Section of Website
  - Deliver in-depth research results and compelling video.

- Create and Distribute "Why Wild" Video Card Direct Mail to Top Brand Prospects, Decision-Makers and Champions.

- Digital Campaign Targeting Brand Marketers / Prospects
  - Why Real Food brands are choosing Wild (links to "Why Wild" consumer data and video on website landing page).

- PR Pitch to Key Trade Editors that Target Food Marketers and R&D Decision-Makers.

4) **Trade Content Strategy Development**
   - Build a comprehensive trade content strategy and provide our trade visitors with content they will value and that will turn prospects into hot leads and ultimately, Wild Blueberry ingredient users.

   - Provide the Commission with hot leads on an ongoing basis that will generate more Wild Blueberry sales.

Maine's estimated 2014 Wild Blueberry crop of 105 million pounds is 19 million pounds higher than the 5-year crop average of 86 million pounds (2009-2013 USDA National Agricultural Statistics Service). We estimate that between 5% - 10% of the additional 19 million pounds may be sold to the ingredient trade market in 2015 (between 950,000 pounds and 1,270,000 pounds) as a result of the successful implementation of the Wild Blueberry Real Foods Pick Wild Trade Program. Utilizing the USDA-NASS 5-year average price of $0.67 per pound (2009 through 2013 - note that the 2014 average price has not yet been published), the additional 5% - 10% movement of the crop through this new program may result in $637,000 - $1,273,000 in ingredient sales for Maine's Wild Blueberry businesses. This would be a significant return on investment from the DACF's initial $50,000 in grant funding and the Commission's $150,000 in matching funds for this program.

Wild Blueberry Real Foods Pick Wild Trade Program January 2015 to Dec/Jan 2016

<table>
<tr><td>Jan to Feb
Research Projects</td><td>March
Multi-Media Presentation Development</td><td colspan="4"></td></tr>
<tr><td colspan="2"></td><td colspan="4">April to December Getting the Message Out</td></tr>
<tr><td colspan="3"></td><td colspan="3">June to December Trade Content Strategy Development</td></tr>
<tr><td colspan="2"></td><td>April
*Report</td><td></td><td>Sept
*Report</td><td></td><td>Dec
*Report</td></tr>
</table>

*If grant is awarded in January reporting will occur 3x during the year to the Commission, WBANA and DACF regarding progress; annual report re; results.

VIII. KEY PERSONNEL AND PROJECT MANAGEMENT

Key Personnel at Ethos:

- Mike Collins, Marketing Director and Key Account Lead on Wild Blueberries
- Judy Trepal, Creative Director/Owner
- Belinda Donovan, Public Relations Director
- Hannah Richards, Social Marketing and Content Development Specialists

Key Personnel at Vont (the digital marketing arm of Ethos):

- Tom Gale, President/Owner of VONT, the digital marketing side of Ethos
- Tim Blackstone, Director of Digital Design
- Josh Emerson, Director Digital Programming
- Katarina O'Hara, Paid Search Campaign Specialist

Commission Staff:

- Nancy McBrady, Executive Director
- Patricia Kontur, Program Director

Mike Collins, Marketing Director at Ethos, will be directing the Ethos team and the overall project. Collins will provide updates on a quarterly basis to the Commission as well as to the Wild Blueberry Association's (WBA) Marketing Committee for the duration of the project. In the event that any issues may arise with respect to the project's creation, execution or delivery, Collins will contact the Commission's Executive Director and/or the Commission Chair and Commission administrative staff to make any needed adjustments or changes.

The Commission staff will stay in contact with the DACF Director of Marketing on quarterly basis. As program activities are implemented it may be necessary to communicate on a more regular (bi-monthly) basis to provide supporting information and documentation of events. All data results will be collected by Ethos and an annual report will be provided to Commission and WBANA and forwarded to the Maine DACF at the completion of the project.

IX. BUDGET/BUDGET NARRATIVE

The proposed budget for the Real Foods Pick Wild Trade Program is $200,000, with $50,000 from the Agriculture Development Grant and the remaining $150,000 in matching funds to be provided by the Wild Blueberry Commission of Maine. This contribution by the Commission will be in cash, and exceeds the 50% match required by the DACF Agricultural Development grant for market promotion programs. The Commission meets the additional grant requirement that at least 10% of the total cost of the project be funded from nonpublic sources, as the revenue from Wild Blueberry Tax paid by growers and producers and collected by the Commission is a non-public source of funding. It is this tax revenue that shall be utilized by the Commission to fund the additional $150,000 necessary for the **Wild Blueberry Real Foods Pick Wild Trade Program.**

Budget Narrative:

Budget expenditures totaling $200,000 will occur during 2015. The $50,000 grant funding from DACF will cover the PR pitching and Digital Media components of the budget outlined below.

The $150,000 in industry funds will cover the remaining budget elements, including research efforts and multi-media development.

There will only be one line item in the budget worksheet – the contractual category – because all monies will be paid directly to and expended by Ethos in producing and executing the **Wild Blueberry Real Foods Pick Wild Trade Program.** Hence, the contractual category is the most appropriate means of budgeting the $50,000 in grant funding. Contractual activities are detailed in the narrative below.

Real Foods Pick Wild Trade Program Budget and Timing Details:

Program Components	Funding Required	Timing
Research Prospective Buyers	$5,000	January 2014
Research Consumers' Wild Value Proposition	$40,000	January – February 2014
Research and Document Trade Support for Real Foods and Wild Value	$30,000	February 2014
Multi-Media Presentation	$35,000	March 2014
Processor Training	$4,000	April 2014
Website Development (Landing Pages)	$8,000	April 2014
Video Card Direct Mail	$15,000	April 2014
PR Pitching	$6,000	April –June 2014
Digital Media Campaign	$45,000	April – December 2014
Trade Content Strategy Development	$12,000	June – December 2014
TOTAL	$200,000	

BUDGET WORKSHEET	
OBJECT CLASS CATEGORIES	
a. Personnel	
b. Fringe Benefits	
c. Travel	
d. Equipment	
e. Supplies	
f. Contractual	$50,000
g. Construction	
h. Other	
i. Total Direct Charges	
j. Indirect Charges	[Not allowed by Department]
k. TOTALS	
PROGRAM INCOME	

X. SUPPORTING DOCUMENTION

None.

Increasing Local Plum Production for Farm Market Diversification

The University of Maine requests $29,590 to conduct a 2.5-year study on consumer acceptance and costs of production of plums. Plums can be marketed from late July through September during Maine's peak tourist season. However, few fruit growers produce plums despite their adaption to the climate and similar cultural requirements as apple. Barriers to diversification include a lack of knowledge on profitability, and information on which varieties are best suited to the local market. We propose to measure production costs, nutritional quality and consumer acceptance of seven Japanese plum varieties.

5

Project Director:
Renae Moran, Associate Professor
PO Box 179
Monmouth, ME 04259
Fax: 207-933-4647
Email: rmoran@maine.edu

Amount of Funding Requested: $29,590
Matching Funds: $15,558

Project Duration: January 2015 to July 2017

Title, Signature and Date of Person Authorized to Legally Bind the Bidder

Digitally signed by Michael M. Hastings
DN: cn=Michael M. Hastings, o=University of Maine, ou=Office of Research & Sponsored Programs, email=umgrants@maine.edu, c=US
Date: 2014.12.19 10:01:40 -05'00'

Michael M. Hastings
Director Office of Research & Sponsored Programs

12/19/2014
Date

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Justification and Need for the Project

Maine has a long-standing apple industry that produces fruit for retail farm stands and local supermarkets. Expansion of the apple industry is limited by its rural location and season of availability that does not coincide with the time when most tourists visit the state. Over 14 million people made an overnight visit to Maine in 2012 (http://www.maine.gov/dafs/gamingcom/docs/2012%20Maine%20Tourism%20Fact%20Sheet.pdf) most of whom visited in summer when apples were available. Plums ripen from late July through September. To increase competitiveness, apple growers can produce and sell plums at a time when Maine's population reaches its seasonal peak. Currently, the high demand for local produce creates an opportunity for farm markets to diversify production into other fruits and to take advantage of the presence of tourists in late summer. For tree fruit growers, peaches are the easiest to market because of high consumer demand, but are not widely grown due to their lack of cold hardiness and high risk. Plums are cold hardy and pose less risk than peaches or cherries.

Many apple orchards also grow plums, but on a very small scale of less than one acre per farm. In 2012, 21% of growers reported marketing plums, and in 2014, this increased to 30% (Maine State Pomologicial Society Price Survey). Per capita consumption of plums is currently about 1 lb. annually, but production in Maine is well below this indicating that most plums consumed in Maine are grown elsewhere. Traditionally, apple growers thought of themselves as single-commodity producers which fit the wholesale model of years past. Changes in the industry, such as the increase in demand for local produce and the reliance on retail sales, create the potential to diversify production.

Lack of cultural knowledge and market potential limit the growth of plum production in northern New England. Under Maine conditions, the costs of production are unknown, but preliminary data is available from studies at Highmoor Farm. Production practices vary somewhat from apples which will affect profitability. Plums require hand thinning and greater harvest costs. Pest management differs from apple which increases complexity and labor needs. However, establishment costs can be lower than for apples since plums are planted with fewer trees per acre and do not require the support of a trellis or stake. Yield is lower than apples, but the price per pound is generally twice that of apples. Based on research at Highmoor Farm, the average harvestable yield per acre was 12,000 lbs. for high yielding varieties, 7000 lbs. for a low-yielding varieties, and 0 to 2000 lbs. for poorly adapted varieties. The average farm stand price in Maine in 2014 was $2.50 per pound compared with $1 for apples.

Plums are consumed at greater rates in European countries than in the US, despite being a highly nutritional fruit. Poor quality of supermarket plums that are shipped from the west coast is a contributing factor. Shipped plums typically have poor flavor from harvesting unripe and mealy texture with internal browning from cold storage. Close proximity to markets allows Maine growers to harvest tree-ripened fruit and to sell them within days of harvest so that quality is optimized.

The close proximity of farm markets to consumers allows growers to harvest and sell fruit that is "in-season" and of higher quality than plums picked green and shipped long distances. Fruit that

is picked at ripeness and consumed shortly after has the highest content of vital nutrients. Plums contain many nutrients such as vitamin C in addition to other health promoting compounds such as fiber and antioxidants. The antioxidants of interest include polyphenols (anthocyanins in red and purple plums) and carotenoids. The polyphenols are important for helping the body combat inflammation and can have positive benefits for other body systems such as the cardiovascular system. Carotenoids, precursors for vitamin A, are important for eye health and also serve as an antioxidant in the body. Plums also have enzymes (alpha-amylase and alpha glucosidase) that lower sugar uptake and may be part of a diabetes prevention lifestyle. More information is needed to understand the nutritional profiles of plum varieties adapted to the cold climate of Maine, and how locally-grown tree-ripened plums compare to more widely grown varieties that are typically harvested under-ripe.

Project Goals and Objectives

The goal of this project is to address the limited size of the consumer population for apple growers. This project incorporates the priorities of diversification and enhanced nutrition.

1) To identify suitable plum varieties for the local climate based on yield, fruit quality, consumer acceptance and production costs
2) To determine if local, tree-ripened plums have greater content of health beneficial compounds such as antioxidants

Deliverables

This project will benefit 40 to 80 apple growers in Maine who currently produce fruit for a retail and/or wholesale market. This project will result in new information that can be used by apple growers to determine if plums are an option for diversification, and if so, which varieties are best for the local market. We will also measure the level of health beneficial compounds in locally grown plum varieties to determine if local conditions and varieties improve the nutrition of plums. We will develop and publish fact sheets, and a website for growers and consumers. New knowledge from this research will become part of the standard extension program for tree fruit growers.

Innovation

Most of the plums sold in Maine are harvested unripe and shipped to Maine from long distances, a process that reduces both fruit quality and consumer appeal. Since they are closely located to the their targeted customers, Maine growers have the opportunity to market tree-ripened plums and to select varieties that have greater consumer appeal rather than shipping tolerance.

Two new varieties, recently evaluated at Highmoor Farm, have shown potential for successful production in Maine, but many new varieties remain untested and could be potentially better than the varieties that are currently grown.

Degree of Risk

Crop losses from weather such as frost at bloom or rain-induced fruit cracking could delay the collection of data by one year. An unusually cold winter (temperatures below -25 °F) could result in crop loss as well.

Project Methodology and Schedule

Varieties to be tested include Spring Satin, Early Golden, Methley, Shiro, Obilinaja, Superior and Vanier. The orchard has three to five trees of each variety planted in a replicated and randomized design. The orchard is managed using standard commercial practices for plums. An additional ten varieties will be planted to expand our ability to find varieties with an early ripening date and superior fruit quality. In 2015, ten trees each of varieties will be planted at Highmoor Farm in a replicated orchard plan. New varieties of plums and pluots will be selected for cold hardiness and an early ripening date. Varieties not available from nurseries in 2015, will be ordered for planting in 2016. Since these trees will take three years to bear fruit, matching grower funds will be used to purchase trees and to support future plum evaluation.

To measure the cost of growing plums, the labor requirement for pruning, fruit thinning, spraying, mowing, harvesting will be measured on a per acre basis. Pruning, thinning and harvesting will be timed. Yield per tree will be measured at harvest. Three years of previous yield measurements, spray records and one year of labor needs for fruit thinning have already been measured.

Each variety will be harvested at two stages of ripeness to simulate fruit harvested for shipping and fruit harvested tree-ripened. Fruit will be picked at a flesh firmness of 4-6 lbs. and 2-3 lbs., stages of ripeness that correspond with shipping and tree-ripened. At harvest, a 10-fruit sample from each tree will be measured for flesh firmness and fruit weight. All plum varieties will also be tested for color, pH, brix (sugar content) and titratable acidity, a measure of sourness. Color will be measured on the interior flesh of the plum 24 hours after harvest and again after four days.

Fruits will be pureed, filtered and frozen for measurements of fruit quality and nutritional compounds (bioactives). Colorimetric assays will be preformed to measure total phenolic acids and total anthocyanins. Plums will be ground up (pit removed, but flesh and skin included) and snap frozen 24 hours after harvest and four days post harvest for these assays. Samples will be frozen at -80°C until they can be extracted with acidified methanol for the phenolic and anthocyanin assays. High pressure liquid chromatography (HPLC) will be used to look at anthocyanins and carotenoids with greater detail and more precise measures from the extractions collected from the skin/pulp of the plums.

Dr. Myracle's lab is equipped with all the necessary equipment to measure the bioactives in the plums including a colorimetric plate reader, vacuum concentrator, centrifuges, HPLC, freezer and freeze dryer. Her lab is dedicated to plant biochemical analysis and has established methodologies for the experiments. These assays will help determine which plum varieties have the potential for the greatest health benefits.

Sensory evaluation will be conducted within a week of harvest on both stages of ripeness with varieties grouped according to ripening date. Since the ripening of these seven varieties varies from late July to mid Sept., varieties will not be evaluated together, but in sets of two. One-hundred people will be recruited for sensory evaluation. Plum slices of the different varieties will be served to participants who will be asked to evaluate the appearance, texture and taste using a 9-point hedonic scale.

A website will be developed for fruit growers as a learning resource which will contain information on necessary horticultural practices, pest management, expected yield and estimated costs of production. This website will be part of the Cooperative Extension tree fruits website. A fact sheet and website will be produced for a consumer audience.

Project Activity	Who	Timeline
A presentation on plum production costs and a presentation on health benefits at a grower meeting	State University Personnel	January 2015
Measure costs of production and yield, and plant new plum varieties	State University Personnel	March to September 2015
Measure fruit quality and sensory evaluation at harvest	State University Personnel	July through September 2015
Measure nutritional compounds in fruit samples	State University Personnel	October 2015 through February 2016
Present results to fruit growers	State University Personnel	January 2016
Prepare and launch Plum Growing website, publish fact sheet on production and a brochure for the general public	Cooperative Extension Personnel	January to May 2016
Repeat measurements on fruit quality, nutritional compounds and production costs. Plant additional plum trees if needed.	State University Personnel	March 2016 to February 2017
Update fact sheet and website	Cooperative Extension Personnel	March 2017
Summarize results in a report and presentation	Cooperative Extension Personnel	July 2017

Key Personnel

Renae Moran, University of Maine Cooperative Extension Tree Fruit Specialist. Will organize orchard data collection, conduct cost analysis and run extension meetings. Prepare fact sheet and website. Will collaborate with the Maine State Pomological Society to present results to growers at meetings and with collaborate with Cooperative Extension to prepare and produce factsheets and websites. Will prepare reports for the Department.

Angela Myracle, University of Maine School of Food and Agriculture Assistant Professor. Will organize fruit quality and compositional analysis, and sensory evaluation. Prepare brochure for the general public.

Budget and Budget Narrative

BUDGET WORKSHEET	
OBJECT CLASS CATEGORIES	
a. Personnel	$ 6840
b. Fringe Benefits	
c. Travel	
d. Equipment	
e. Supplies	$ 11,500
f. Contractual	$ 11,250
g. Construction	
h. Other	
i. Total Direct Charges (sum of 6a-6h)	$ 29,590
j. Indirect Charges	DEPARTMENT DOES NOT ALLOW FOR INDIRECT CHARGES FROM THE APPLICANT
k. TOTALS (sum of 6i and 6j)	$ 29,590
PROGRAM INCOME	

Budget Justification, University of Maine
Requested Funding from Sponsor: $29,590
A. Personnel: Total $6840
Student Research Associates
One student will conduct field research on costs of production involving summer pruning, fruit thinning and harvest. Another student will prepare fruit samples, measure fruit quality and nutritional compounds. 720 hours @ $9.50 per hour. Students do not receive fringe benefits.

E. Supplies: Total $11,500

HPLC columns $1500 (Bioactives)
Disposable supplies (test tubes, gloves, pipettes and tips, fruit plates, fruit labels, store bought plums for comparison) $3500
Chemicals and analysis standards $6500
Plums trees will be purchased with matching funds

H. Other: Total $11,250
Interdepartmental Services: $7,250
University of Maine Basic Farm Service charge (1.0 acre of plum trees @ $2,500 per acre each year for two years). Services include pruning, mowing, fertilizing, spraying.
Sensory evaluation of plum varieties will require use of the sensory lab and equipment @ $1125 annually for two years.

Participant Support Costs: $4,000
Sensory evaluation of plum varieties will include 100 participants at $20 per person annually for two years.

Indirect Costs
The sponsor does not allow indirect charges.

Cost Share: $15,558
UMaine Direct Cost Share: $11,563
Personnel Salary: $7,617 Personnel Fringe Benefits: $3,946
Renae Moran, University of Maine Cooperative Extension Tree Fruit Specialist, 0.05 FTE in each year. PI will organize orchard data collection, conduct cost analysis, present results to fruit growers, and prepare a website. Fringe benefits are included at 51.8% of the committed salary figure.

Indirect Costs:
The UMaine DHHS predetermined indirect rate is 42.8% MTDC for research projects. Indirect costs are not included in the cost share totals.

Third Party Non-Public Cost Share: $3,995
Personnel: Harvest labor will be provided by a local apple grower (nonpublic) $720 in year 1 and $325 in year 2.

Supplies: New England Tree Fruit Research Committee (nonpublic) will contribute $2590 in plums trees and other supplies in year 1.

Project Partner Oversight
This project will be overseen through University of Maine Agricultural and Forest Experiment Station and Cooperative Extension personnel at the Highmoor Farm in Monmouth, ME. Primary oversight lies with the Tree Fruit Specialist who has conducted research and extension meetings for the tree fruit industry for 14 years. The Experiment Station currently maintains a plum orchard that is representative of commercial orchards within the state. One extension meeting is held at the Highmoor Farm which will allow growers to see first hand the research plum orchard.

Ricker Hill Orchards

Ricker Hill road

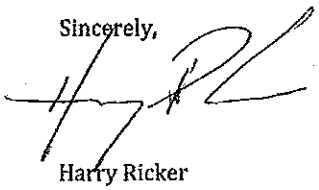
Turner Maine 04282

December 16, 2014

Dr. Renae Moran:

Ricker Hill Orchards is pleased to continue to provide harvest labor for the Japanese plums at Highmoor Farm in 2015. We will also provide information on yield and harvest hours. An estimation of the value of this in-kind match is $1050. We have collaborated with Dr. Moran in the past and look forward to participating in this project, as well.

Sincerely,



Harry Ricker

Downeast Salmon Federation Mobile Smokehouse

Description of project objectives and results expected

We at the Downeast Salmon Federation, a local grassroots nonprofit, would like to continue and expand the heritage process of smoking fish for preservation. Primarily our focus is on lower end food chain fish, namely river herring (sea run alewives and blueback herring), mackerel, and smelt. These are fish with large, healthy populations that can support being a food staple for the region. Our mobile smokehouse idea can increase the local, nutritious foods on peoples' plates and serve as a tremendous outreach tool to educate the public about the fish, the rivers, and the oceans.

Name, title of applicant, and contact information

Zach Sheller
Assistant Hatchery Manager of the Peter Gray Hatchery located in Downeast Salmon Federation's East Machias Aquatic Research Center
13 Willow St. East Machias, Maine 04630
717-422-6847
zach@mainesalmonrivers.org

Amount of funding requested: $ 31,200
Amount of match (in-kind, etc.): $ 15,000

Duration of Project:

Spring 2015 - Fall 2018

Signature, title of person and date for who is authorized to legally bind the Bidder:

Dwayne Shaw

_____X Dwayne Shaw; Executive Director of the Downeast Salmon Federation

12/18/2014 (Date)

ORIGINAL

II. Identification of Need/Opportunity and Justification

It's no secret that millions of people in the United States have diets that do not provide the proper nutrition their body needs, and Maine is no different. The lack of nutrition can be caused by a variety of factors including: poverty, lack of education about products and local, seasonally available food sources, shifting tastes, and limited access to nutritious foods. While this is a serious issue, there is progress being made with a shifting emphasis on small scale agriculture, local produce co-ops, community gardens, and use of seasonal local ingredients in cooking.

A state of the art mobile commercial smokehouse will allow us to tap into local resources of fish that are found along Maine's coast and in Maine's rivers. Dating back to the Native Americans, fish have been smoked to preserve and eat year round, and the river herring were one of those species. The abundance of river herring in Maine's rivers are one reason early settlers chose coastal towns to start their homesteads. This smokehouse will be a safe way for people to smoke any sort of fish or seafood they like and reintroduce this healthy food source into our local communities.

When eating fish from the lower end of the food chain (like river herring, mackerel, and smelt), there is less mercury present and tons of healthy oils and proteins. While the majority of the news is on declining populations of fish, river herring have strong populations in many areas and they are ever increasing as awareness of the species and access to their spawning areas expand. As these populations of fish expand we hope to display a business model that sustainably, safely, and deliciously adds smoked fish into local palates and becomes a business that either Downeast Salmon Federation, an individual, or another organization can mimic and capitalize on.

III. Project Goals and Objectives

1. To provide safe, nutritious, smoked fish for local communities.
2. The potential positive impact area from a mobile smokehouse is much larger than a stationary smokehouse, thereby increasing the amount of people that can be reached.
3. Washington County, considered one of the poorest counties in the United States, has 81 towns, unorganized areas, and townships with a county population from a 2010 census of 32,856 people. The spread out nature of the county provides the incentive to be a mobile, as opposed to stationary, smokehouse plant.
4. Increase understanding and education around local foods, specifically river herring and fish, and provide access to those foods for communities. This will be achieved through school programs, festivals, fairs, special events, and the list continues.
5. Shift fishing pressure from overfished populations like cod and haddock to robust populations of river herring, mackerel, and smelt.
6. Increase potential municipal incomes through river herring harvest permits.
7. When people enjoy a type food they are more likely to be concerned and care about the environment those foods inhabit. This would suggest that as an added bonus our streams, rivers, lakes, and oceans will become healthier through an educated public.

8. The mobile smokehouse trailer would be a visible piece of advertisement to get people discussing local food, sustainability, and heritage all at the same time.
9. The Downeast Salmon Federation occupies a lead role with the Downeast Fisheries Partnership. The partnership is a group of organizations whose idea is to "fish forever". To achieve this goal it facilitates community based management of resources. A mobile smokehouse focusing on sustainable populations of fish endorses the "fish forever" ideal.

IV. Deliverables

This is the type of project that once set up and running can continue to feed people for a long time. Another advantage to this product is that, to our knowledge, it will be the first mobile fish smokehouse. Once this project pioneers this process, it will be easier for others to follow. The more smokehouses focusing on sustainable fish populations the more smoked fish there is to feed the hungry. Since we are a nonprofit with education at our core, our smokehouse would be a wonderful tool to show people what can be done. The adventures of the mobile smokehouse would be documented on our website, our Facebook page, and in our newsletters (the most recent edition was sent to 1600 households). Not to mention the word of mouth and visual observations made by the public anytime the smokehouse is in operation. The smell and smoke rolling draws people in from miles away!

V. Innovation

The idea of smoking fish is certainly not a new one. People have been preserving fish in this manner for a long time. The Passamaquoddy people refer to the St. Croix River as Schoodic (pronounced Scoo-dec), which means the river of fire or smoke. The river receives its naming because, from a distance, the river would appear on fire with smoke rising from its banks as the Passamaquoddy preserved their catch for the coming year. The innovation here is a state of the art commercial smokehouse, outfitted to cold smoke river herring, as well as other small, low trophic level, abundant and sustainable species, such as mackerel and smelt. This innovation will bring these abundant and once celebrated food sources back to the table.

This mobile smokehouse will offer an opportunity for people to preserve their fish in a safe and efficient manner, so they can enjoy what our rivers have to offer throughout the year. This will be a design and idea that the Downeast Salmon Federation, another entity, or even another individual, could take on and turn into a profitable business. In a time where our native fish populations, both inshore and offshore, are in a perpetual state of decline, it is important to turn to what is available and abundant. This project will allow people to rely on the abundant and resilient run of river herring, along with other small, low order fish such as mackerel, as a food source. Further, this portable smokehouse will give some attention to a plentiful, healthy food source that is, unfortunately, overlooked and underappreciated by many. This will also be an innovative outreach and education tool. People are already drawn to a small heritage smokehouse on the banks of the East Machias River. This new smokehouse will allow our efforts to reach beyond the banks of the East Machias River and into communities all over Washington County.

VI. Degree of Risk

A big part of this project is outreach and education. The risks involved revolve around whether there is a viable market for the product we are preparing to create. There is always risk when introducing a relatively new or reintroduced product to the market. Will people have interest? Will people like the product? Is there a need for the product? The movement toward locally sourced, healthy, sustainable food is increasing. It is our belief that this is the right time to work towards getting smoked river herring and other locally harvested seafood items on the market. This movement and societal shift in focus on local, sustainable food sources alone should help to minimize the risks mentioned above.

Outreach and education, again, is a big part of this project. We will be reaching out and involving as many community members and students as possible. Educating them on the ecological and economic importance of river herring along with the benefits of including small, low trophic level, abundant, healthy fish sources to their diet. We have already been doing this to some degree with our existing smokehouse. Our current smokehouse represents more traditional ways of preparing these fish and does not meet USDA standards. For this reason we cannot sell our product, but the demand is there. Through outreach and education we have seen this demand grow, just in the small town of East Machias. We give away hundreds of smoked alewives each year, and if we were able to market and sell these fish, we could greatly expand the opportunities.

VII. Project Methodology and Schedule

This project will begin with construction of a commercial mobile smokehouse that will be equipped to smoke river herring, as well as other items, in a controlled environment. The end product will be of the grade and quality to sell to end users, as well as put on the market for in-store sales. Much of the effort will be focused on further product development and reaching out to surrounding community members and schools to teach them about this method. It will also teach the benefit and importance of shifting our reliance from large pelagic fish as a food source, to smaller, more abundant, more sustainable fish species such as river herring, mackerel, and smelt. We will reach out to members of the community to offer the use of the smokehouse, run by DSF staff, to smoke their own catch.

Through the course of this project, we will demonstrate innovative techniques and methods to market a locally sourced, sustainable product that can offer interested entrepreneurs a platform to begin a profitable business venture. The smokehouse will be completed for the spring 2015 river herring run which begins in late April. Marketing will begin before this time and continue through the duration of the herring run, into June, and will be on-going as opportunities develop for the mobile smokehouse. It is our goal to have a product available for people to buy "smokehouse side" through the duration of the herring run in 2015, with the potential to market a product for future in-store sales.

VIII. Key Personnel and Project Management

The Downeast Salmon Federation will be the lead on this project. This grant will help secure funds to hire an individual to work on this project part time from April through June. This

person will be responsible for preparing, smoking, and packaging the fish, as well as fulfill the outreach and education piece of this project. This person will work closely with regional USDA inspectors to ensure smokehouse operations meet USDA standards. This person will also be responsible for recording any information on smoker temperature, storage temperature, cleaning logs, etc. to ensure our operation meets USDA standards as outlined in the USDA's Hazard Analysis and Critical Control Points (HACCP) plan. They will work closely with current DSF staff to develop a quality product to sell "smokehouse side", as well as work toward a product of quality and grade to put on the market. This individual would be responsible for smokehouse operation from April through June, after this period, DSF staff would be responsible for smokehouse operation. Initiative would be employed to obtain all training and certification necessary to run a commercial smokehouse operating in the same manner outlined above.

IX. Budget/Budget Narrative

BUDGET WORKSHEET	
OBJECT CLASS CATEGORIES	
a. Personnel	$ 4,000
b. Fringe Benefits	$ 0
c. Travel	$ 500
d. Equipment	$ 40,000
e. Supplies	$ 1,400/year
f. Contractual	$ 0
g. Construction	$ see equipment
h. Other	$ 500
i. Total Direct Charges (sum of 6a-6h)	$ 46,200
j. Indirect Charges	DEPARTMENT DOES NOT ALLOW FOR INDIRECT CHARGES FROM THE APPLICANT.
k. Totals (sum of 6i and 6j)	$ 46,200
PROGRAM INCOME	$ 10,100/year

Budget Narrative

Personnel cost for the project were calculated for one employee at $15/hour, working 20 hours per week for a little over three months. This amount of labor and the length of time could increase with demand of services, especially if community members start employing the services of the smokehouse for various products.

There would be no fringe benefit costs to speak of. Travel expenses would include fuel costs and any truck rentals that occur to transport the trailer from place to place. This cost would vary depending on the amount of distance that is covered by the smokehouse.

The equipment cost for this project is the most expensive portion, but is also a one-time expense. Once the specialized trailer is purchased it will serve for many years in the business model. This trailer will follow all national and state health codes including, but not limited to: hot/cold running water under pressure and impervious surfaces that are easily cleaned. Currently, AutoCAD drawings are being completed to design the layout of the trailer to ensure when constructed it will work efficiently.

The supplies needed to make this business go are as follows: sawdust, salt, fish, and packaging. Estimated costs associated with these supplies would be as follows: sawdust $300/year; salt 3 bags/week for 3 months at $12/bag $432; River herring estimated $468; packaging 25 cases at 60 bags/case $200. This gives the total of $1,400 for supplies initially.

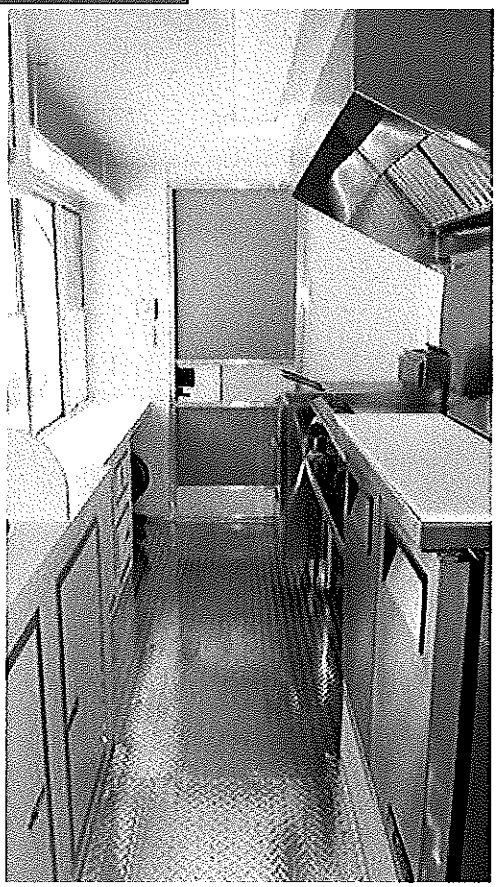
There are no contractual costs and all construction costs are lumped into the equipment section for the mobile smokehouse. The $500 in the "other" section would cover any propane, electric, and cleaning supplies needed.

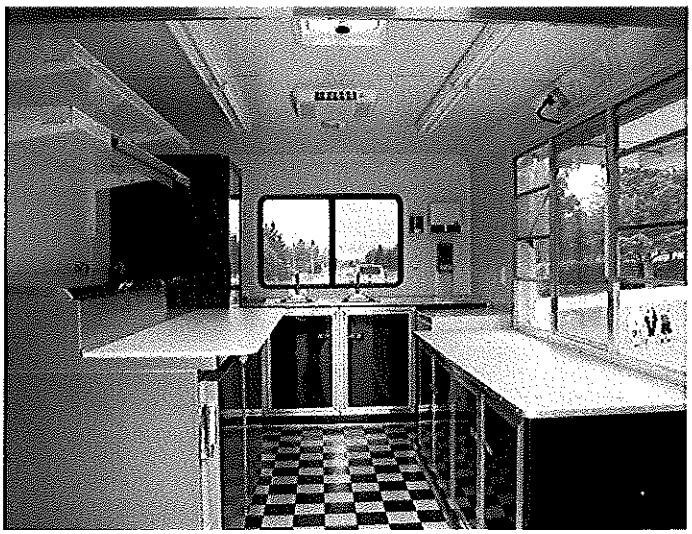
Removing the initial cost of the mobile smokehouse gives an estimated yearly operating expense of $6,400. The understanding being that this value could increase or decrease as a market is created, the smokehouse is run more often, and more people are added to work. The potential income is hard to calculate completely at this point. Running a business like this would have benefits to the communities that are hard to put a price on. To get an estimation, let's assume each smoked fish is sold for $2/fish and we are smoking 400 fish/week for three months. This generates a gross profit of $9600/year. Now let's add $500/year gross profit for smoking items for other people, this now changes the annual gross profit to $10,100. If for some reason the fish did not sell at $2/fish, selling the fish at $1/fish would generate an annual income of $5,300. These are estimated figures and it would be assumed that as a market is created more fish would be sold and more smoking projects would be taken on, thereby increasing the annual profit. Using our operating expense of $6,400/year and our estimation of selling the fish for $2 a piece our net profit would sit around $3,700/year.

The requested $31,200 in this grant proposal would be put towards the cost of the state of the art mobile commercial smokehouse and personnel. The remaining cost of the smokehouse, operating costs, and supply costs will be covered through in-kind services of Downeast Salmon Federation and a grant from the Elmina B. Sewall Foundation.

X. Supporting Documentation

Included are a few example photos from some concession/smoker trailers found in other parts of the country. Our trailer would be a combination of some of the features you see.





STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY
DIVISION OF AGRICULTURAL RESOURCE DEVELOPMENT
RFP # 201411868
AGRICULTURAL DEVELOPMENT GRANT PROGRAM

Food Safety Education for Maine Crop Distribution Systems

This grant will insure sharing of Food Safety information in a non-threatening way with regional distributors, food hubs, and other Maine food holding systems. The goal will be that food handling businesses will learn about food safety, make informed food safety decisions in their operations and incorporate aspects of food safety into them, as well as pass along this information to their suppliers as well as develop an expectation of food safety. We believe this will have a positive effect on their markets as well as help to make food safety language universal in the Maine marketplace.

AgMatters LLC
Lauchlin W. & Linda B. Titus
1063 Main St. Vassalboro, ME 04989
ltitus21@mvfa...
207-...

Amount of funding requested--$50,0(
Amount of matching in-kind services
Source of matching funds:
27% ($13,653.00)from AgMatt
4. 5% ($2256.00) from CT01A 2(

Duration of Proj

Original

This proposal and the pricing contained ... valid and binding for a period of 180 days from the d... ...me of the bid opening

Lauchlin W. Titus

December 19, 2014

Lauchlin W. Titus, Owner of AgMatters LLC

Section II: Identification of Need/Opportunity and Justification.

There are approximately 1850 Specialty Crop Food growers in Maine. *(NASS 2014 Gary Keough)*. Of that number, approximately 120 have undergone GAP/GHP or Harmonize Food Safety audits demanded of them by their markets in the last year. *(source USDA Agricultural Marketing Service, Fruit and Vegetable Programs-Maine audits for 2013(online))* That leaves approximately 1,730 who have not. We are making the assumption that the majority of these growers have not had any formal food safety training. Many, if not most, growers are also re-sellers of products. They wholesale to others to fill gaps in their production and they buy from others to fill their own gaps in productivity in order to meet market demands. This makes them "food holders".

AgMatters LLC has spoken with and received feedback from several food distribution networks. A few are now being required to be certified for their holding and transportation of product. Whether one sells to SYSCO or to schools and hospitals directly, there is liability should there be a break down in the food safety chain. The need for a clear, consistent, and positive message about food safety from these networks is real, no matter what size the operation is.

This grant will lay the ground work for creating a language and culture of food safety all along the food chain, from farm to handler to market by assisting these handlers with accurate knowledge and practices that will allow them to anticipate issues and prevent them. Food Safety is all about prevention. Participation in this grant would allow handlers to say that they have an understanding of what food safety is about at their level of operations and assist them as they take steps towards incorporating safe handling practices in their "holding" of food. We believe an indirect result of this education and training will be an increase in the purchases of food from Maine farms.

Section III: Project Goals and Objectives

Goals:

- To educate food hubs, food holders, raw food transporters, and other produce distribution networks about food safety at their level of operations; to increase their awareness of best practices.
- To encourage these same operators to incorporate at least one aspect of food safety into their process.
- To maintain an awareness of food safety with food holders over time.
- To ultimately impact market eligibility by providing "safer" products for markets.

Objectives:

- Hold a minimum of 20 Food Safety meetings between January 14, 2015 and January 16, 2018 specifically directed at food hubs, food holders and transporters, and other distribution networks for produce to make them aware of food safety issues specific to their particular operation.
- Educate attendees so they will come away with the basics of Food Safety and a Food Safety Plan for their particular type of operation, and a direction and menu of items that they might prioritize and address over time.
- Create a distribution list from attendee's emails in order to send emails every other month to keep them up to date on food safety issues that may impact their businesses and to keep them thinking about food safety.

Section IV: Deliverables

***A Minimum of twenty Food Safety Workshops will occur in Maine between the dates of January 14, 2015 and January 16, 2018. At least 150 people will attend.**

Outcome: A list of workshops and participants will be compiled. Certificates of attendance will be given out. Results will be compiled and shared in the annual and final reports of the grant.

***At least 130 people will make at least one change in their production system based on what they learned at this training.**

Outcome: Evaluation survey will ask attendee to identify at least one Food Safety based process they plan to alter based on what was shared in the workshop. Results will be compiled and shared with participants via email and in the annual and final reports.

***At least 75 people will be able to identify <u>more than one change</u> they may make in their production system based on what they learned at this training.**

Outcome: Evaluation survey will ask attendee to identify another Food Safety based process they plan to alter based on what was shared in the workshop.

*** At least ten businesses will be able to grow or retain their market as a result of this training.**

Outcome: Evaluation survey will ask this question so that we may document effectiveness of the grant on this aspect of marketing. This information will be compiled and share via email as well as reported in annual and final reports.

***At least 100 food handlers will be networked via email to continue growing their awareness of food safety issues beyond the training.**

Outcome: A distribution list of attendees email addresses will be created and brief Food Safety updates will be shared with them every other month from January 2015 through December 2018. This will create a network that will be nurtured with food safety related updates so that the language of food safety becomes universal and implementation becomes a natural next step. Evaluation data from workshops will be shared with the distribution list in order to keep the conversation alive.

Final evaluation questions regarding the effectiveness of these emails will be emailed and results will be tabulated. This data will be compiled to show the impact of the grant.

Section V: Innovation

This project is <u>not</u> focused on growers, as most food safety to date in Maine has been. **It is focused on food holders**. Food holders are those who buy produce wholesale or gather food and then resell it. There are safety expectations that markets have of food they purchase locally, as well as food safety issues with storage and transportation that will need to be looked at for each operation.

This project will seek out Maine Food Hubs, Produce Distributors, Holders of food (anyone who buys from one farmer to sell to a wholesale market—a "middle man"), and offer this education for planning with food safety in mind.

This grant will not provide food safety certification, it will provide the education necessary for certification to be the next step should the business decide to go that route.

Section VI: Degree of Risk

Risk: Refusal of markets to participate

Method to overcome: This education will be offered directly to entities, at their convenience. AgMatters LLC has already made contact with many food handlers and been assured the need is real. (See notes on pages 8 & 9)+10

We have already been in touch with The Good Shepherd Food Bank, The Unity Food Hub, the Maine

Federation of Farmer's Markets, Hannaford Supermarkets, Crown of Maine Organic Cooperative, Belanger & Sons Farms, and Farm Fresh Connection. However there are many other "holders" of food.

AgMatters LLC will ask for input of the specific needs of each entity to aid in planning their individual workshops. This training may be used as staff development for a business and Certificates of Attendance will be given. Attendance will be followed by bimonthly email food safety news updates to all attendees who allow us to email them.

Section VII: Project Methodology and Schedule

The majority of the time dedicated to this grant will be spent in talking with entities, scheduling workshops and sites, determining each entity's needs, preparing presentations to meet those needs, and creating Food Safety template materials for each training session.

Each training will last three hours and give an overview of why this is important and then delve specifically into possible food safety issues associated with each operation and best practices recommended by the latest Food Safety information. This will be followed by self-prioritization of needs, next steps so to speak.

An evaluation will be completed and the information received will be shared amongst the distribution list in a confidential manner. For instance, we anticipate noticing trends of what people choose to do with the information and we will share that. This data will be used to continually refine the workshops and in our annual and final evaluations.

January & February of each year of the grant.

- Outreach to: the Maine Department of Agriculture, Conservation & Forestry, Senior Farm Share Program, MVSFGA, Maine Pomological Society, MOFGA, Maine's Federation of Farmer's Markets, Crown of Maine, Farm Fresh Connection, SYSCO and other distributors to offer Food Safety workshops.
- Announce the grant at Maine Agricultural Trade Shows in January of 2015-2018.
- Keep abreast of FSMA's Produce Safety Rule and Facility updates to share with participants.
- Create curriculum for individual workshops.
- Update materials for the workshop presentations as needed.
- Print and collate materials.
- Update distribution list for email updates.
- Prepare evaluation forms for workshops.
- Prepare certificates for workshops.
- Update website (AgMattersLLC.com) with materials for this grant.
- Outline a schedule of trainings for publicity purposes for distribution as soon as they are known.

February 1, 2015-January 16, 2018

- Continue outreach to: the Maine Department of Agriculture, Conservation & Forestry, Senior Farm Share Program, MVSFGA, Maine Pomological Society, MOFGA, Maine's Federation of Farmer's Markets, Crown of Maine, Farm Fresh Connection, and other distributors to offer Food Safety workshops over the coming year.
- AgMatters LLC will keep abreast of FSMA's Produce Safety Rule and Facilities rulings and share that information with participants.
- Create and update materials for the workshop presentations.
- Print and collate materials as needed.
- Continue to add to distribution list.
- Plan and Hold workshops. Individualize workshops for specific audiences.

- Do publicity about workshops.
- Give out evaluation forms for each participant, collect, and learn from them. Share results via emails.
- Give out certificates of attendance for each participant at the conclusion of the meeting.
- Continue to update website with materials for this grant.
- Email Food Safety updates every other month beginning in February, 2015 and ending in January, 2018.

November 2016, 2017, 2018--Begin evaluation process for this grant. Pull together all data and make inferences and provide anecdotal information that is relevant to the process. Address each deliverable and outcome and how they relate to the Overall goal and objectives of the grant for annual reports in 2015-2017.

January 2018--Complete final report and send it in to the Department of Agriculture, Conservation & Forestry in care of Jessica Nixon.

Section VIII: Key Personnel and Project Management

The work of this grant will be done through AgMatters LLC by Lauchlin and Linda Titus. Lauchlin will take on much of the direct communication with distributors. Linda will assist with that and take on the role of organization and implementation of the workshops. Both will work on the outreach and email updates that will be sent out every other month. Linda will be responsible for the materials and evaluative aspects of this project.

Date	Activity	Responsible Person/People
January, 2015	Grant begins January 2015. Outreach to groups to set up Food Safety Trainings dates. Materials created. Materials copied. Schedule meetings and publicity. Begin creation of email distribution list. Share with buyers, hubs, and distributors what is being offered. Schedule trainings.	Lauchlin Linda
January 2015-December 2017	Outreach to groups to set up Food Safety Trainings. Schedule trainings. Perform trainings.	Lauchlin
February 2015-December 2017	Materials prepared & copied. Schedule meetings and do publicity. Create, update, and collate materials. Carry out trainings and continue creation of distribution list and outreach.	Linda
Januarys in 2015-2018	Agricultural Trade Show—Grant announcement in 2015 and follow up announcements in each year of availability..	Lauchlin & Linda
Feb, April, June, Aug, October, December 2015-2018	Send out informational emails about food safety to Distribution List.	Linda
November 2015, 2016,2017	Compile data for evaluation of the grant.(Annual & Final) Complete annual evaluations.	Linda
January 2018	Grant ends. File Final Report in January 2018	Linda

Section IX: Budget/Budget Narrative

The amount of money requested from the AGRICULTURAL DEVELOPMENT GRANT PROGRAM for this grant is $50,000.00 over a period of three years, or until the goals of the grant are met.

Costs will be paid by AgMatters LLC:

- Fringe benefits are the cost for half of the medical coverage for one person for three years. $4551. X 3 = $13,653.00 This equates to 27% of the grant.
- Errors & Omissions Insurance coverage is required according to Item 21 of the Bureau of Purchases contract. The actual annual cost of that policy in 2014 for another grant we have was $2,256.00. We are using that cost to estimate for 2016 & 2017.
  2015 costs ($2,256.00) are covered by Specialty Crop Grant CT01A 20141022*1497
  This equates to 4.5% of the grant. ("Public Funds?")

  2016 and 2017 Errors &Omissions insurance costs will be covered by AgMatters LLC unless another Specialty Crop Grant is awarded in the future for one or both of those years. ($2,256.00 per year x 2 = $4512.00) We are not including this amount in our estimate of our funding at this time. It is not necessary to meet the matching requirements of this grant. AgMatters LLC portion is already at 27%. This allows us to seek funding for this insurance elsewhere if possible.

  27% of $50,000.00 is to be covered by AgMatters LLC (Perhaps as high as 36%.)
  4.5% is covered by public funds from Specialty Crop grant CT01A 20141022*1497
  This covers liability insurance for 2015. Years 2016 & 2017 will be covered by AgMatters LLC unless they find another funding source for those years.

Personnel--Linda will perform 90% of the work of this grant, Lauchlin will perform 10%. This averages out to $21.00 per hour for 2000 hours for a total of $42,000.00.

The travel budget is $2000.00 over the term of the grant. This figure anticipates mileage of approximately 4000 miles for $1760.00; tolls of approximately $100.00, and $200 for hotel rooms.

The supply line $6,000.00 includes estimates as follows:

150 3-ring binder notebooks@ $6.ea.	$900.00
pens, paper, chart paper, markers etc.	$240.00
certificates for proof of attendance	$60.00
copying of approximately150 pages per notebook for 150 notebooks (.17/pg)	$3750.00
dividers-150	$450.00
web site maintenance	$200.00
office space/equipment use/room use fees .	$400.00

Section X: Supporting Documentation

AgMatters LLC is a Maine family agricultural consulting business that has worked in the area of Food Safety, GAP/GHP Certification, the Food Safety Modernization Act, and Nutrient Management through Specialty Crop Grants for the last 6 + years.

AgMatters LLC Mission is to provide information and services that help Maine Farmers increase productivity, quality, and profitability of their farm operations; thereby enhancing the quality of life for farm families; the communities in which they operate, and the environment of the State of Maine.

. **"To date, no one who has worked with them has failed a GAP/GHP audit."** (source: John B. McCrea Federal-State Inspection Service, Maine Department of Agriculture-- May 2012) This is still true in 2014, the same is not true in other states.

Lauchlin W. Titus has worked with Maine farmers for over 40 years. He started AgMatters LLC in 2003. He is well respected in the field of Agriculture and works with farmers all over the State of Maine. He served on the Governor's Dairy Task Forces in 2003 and 2009. He has chaired the Maine Nutrient Management Review Board since 1998. He was president of the Maine Vegetable and Small Fruit Growers Association for many years. Lauchlin represents MVSFGA on the Agricultural Council of Maine. He was recently appointed to the Northeast SARE Administrative Council. He served on the Maine Agriculture in the Classroom Council. He is a member of Maine Farm Bureau and the American Society of Agronomy.
Lauchlin has served as a team member or leader for numerous Farms for the Future teams, and worked with Maine Farmland Trust's Farm Viability Program as a team leader. He is a facilitator and presenter at many venues for private enterprise and Cooperative Extension. He serves on the technical committee for the Maine Board of Pesticides Control and the NRCS State Technical Committee. He is often asked to speak to professional groups about Food Safety and GAP/GHP in Maine. He received the 2008 Commissioner of Agriculture's Distinguished Service Award. He received the 2011 Certified Crop Advisor of the Year from the Northeast Region Certified Crop Advisors Board of Directors. He serves on the SARE
Lauchlin is very active in Vassalboro. He has served as a Selectman for many years and has also served on the School Committee and Budget Committee in the past. He is a member of Vassalboro Grange #322.

Linda Titus is the organizing force in the business. She loves working with farmers. She makes sure that things are done and accurate. She coordinates the advisory program we offer for GAP/GHP assistance in preparing for audits and has created a template for a Food Safety Plan for Maine Farmers that is being utilized by professionals in several New England states to assist farmers. She has organized our Food Safety training meetings and she meets with farmers one on one to assist with their food safety needs. She delivered a two day workshop sponsored by the Cheshire County Conservation District in NH on Food Safety in April 2011. She completed Cornell University's "Implementing GAPs: A Key to Produce Safety Course" in April of 2012. Linda works closely with Maine's Federal-State Inspection Service in order to have the latest information available to growers.

Linda also assists Maine farms with Livestock Operation's Permits and the MEPDES Permit process. She has served as a team member or leader for numerous Farms for the Future teams, and worked with Maine Farmland Trust's Farm Viability Program as a team leader and with Maine Rural Partners Extend the Know Your Farmer Season as a team leader. She serves as Administrative Assistant for the Agricultural Council of Maine

Linda has served the Vassalboro Grange for over 20 years as Master and Secretary, and the Vassalboro Library as a trustee. She has served as president of the Vassalboro Business Association for several years. Linda was a teacher for 14 years and an elementary school principal for 8 years previous to joining the family business. Her strengths are her understanding of food safety issues; her ability to clarify complicated processes into simple steps in order to accomplish goals; her love of agriculture and farmers, and her desire to see Maine farmers prosper.

Good Shepherd
Food-Bank
Feeding Maine's Hungry

December 9, 2014

Dear Lauchlin,

We wish to express our support for the food safety goals contained in your proposal entitled "Food Safety Education for Maine Crop Distribution Systems."

We support your intent to work directly with regional food distributors, food hubs, and other food aggregators to provide food safety information to these operations and the farmers that they work with.

We are well aware of the importance of food safety in the handling and distribution of fresh fruits and vegetables. Good Shepherd Food Bank has initiated its Mainers Feeding Mainers program with the primary intent of increasing access to locally grown vegetables and fruit by people in Maine facing food insecurity. This year, Mainers Feeding Mainers acquired through purchases and donations over 2 million pounds of fresh vegetables and fruit from Maine farms to distribute through our partnerships with 600 hunger relief programs statewide.

Safe handling of fresh produce is a top priority for us. We applaud this work to increase food safety education resources in Maine, especially relating to the safe sourcing and distribution of local farm produce.

Sincerely,

Nancy Perry

Nancy Perry
Project Director, Mainers Feeding Mainers
Good Shepherd Food Bank

Received via email December 15, 2014

Lauchlin,

Hello. I am so happy to hear your proposal to support us here at Farm Fresh and also the farms we source from. Farm Fresh distributes for over 200 Maine farms and distributes to farms, retail stores, restaurants, schools and other distributors. Many of our customers require GAP and Harmonized GAP certification. Many of the farms we work with are either certified or in the process of certification. A service as you are proposing is invaluable. Our business is as a food hub and as a distributor and marketer. To have someone available at a phone calls notice to assist us in completing certification is invaluable. You are familiar with our territory, the people we do business with and the product we ship – intimate with the operations and people involved. We fully support your idea and hope your proposal works out.

Thank you.

Martha Putnam
Owner/Operator
Farm Fresh
www.farmfreshconnection.org

Lauchlin Titus
AgMatters, LLC
Vassalboro, ME
RE: Letter of Support

Dec. 16th, 2014

Dear Lauchlin,

I am happy to write this letter in support of your grant application titled: "Food Safety Education for Maine Crop Distribution Systems".

Maine Harvest Company, LLC is a burgeoning "food hub" that hopes to lightly process and freeze locally grown fruit and vegetables to help create greater access to locally grown food and to create greater economic opportunity for Maine farmers. We have been 2+ years in the research and design phase of our business concept and one of our concerns has been the issue of the changing food safety regulation and the corresponding design of our processing line.

As you know, we contacted AgMatters at the start of our project to see if you could aid us by providing some supplier education classes around food safety and GAP (Good Agricultural Practice) compliance measures. Many of our farmers have expressed interest in learning more about GAP. While Maine Harvest Company will not require our producers to be GAP certified at this time, we recognize that this will likely become a mandatory component of food marketing and sales down the road and we want to support our farmers in becoming educated around these standards and help them adopt these best practices early on in our work together by sponsoring these classes and becoming a resource for other food hubs.

I believe that the educational service AgMatters provides to farmers is a critical piece of Maine's growing food system infrastructure and I'm happy to offer my support for this application.

Best,

Jamien Richardson
Owner
Maine Harvest Company, LLC

Maine Harvest Company, LLC
PO Box 382
Topsham, ME 04086

ORIGINAL

15

COMMERCIAL PROPAGATION

of

Common Milkweed (*Ascelpias syriaca L.*) and Butterfly Weed (*Asclepias tuberosa*)

Peaked Mountain Farm intends to convert 8.8 acres of marginal Wild Blueberry land into commercial production of milkweed seeds, seedlings, and cuttings.

Through diversification of native products, we will enter alternative markets. Milkweed plantings not only provide food and habitat for Monarch Butterflies in critical decline, they provide sanctuary for native pollinators, including two species rarely sighted in our region in recent years, Bombus terricola and Bombus borealis--both species were documented on our farm in a University of Maine study. Availability of our organic crop of milkweed will encourage landscapers, farmers, and gardeners to create beneficial pollinator habitats.

Daniel B. and Gail J. VanWart, Owners/Partners
Peaked Mountain Farm
16 Ellery's Lane, Dedham, Maine 04429
Mailing address: PO Box 102, Holden, ME 04429
Phone: 207-249-5002
E-Mail: peakedmtfarm@aol.com

Amount of Funding Requested: $31,115.74
In-Kind Match: $18,812

Project beginning: 1 February 2015
Project ending: 31 October 2017

Signature: _____ Title: Partner Date: Dec 15, 2014
Daniel B. VanWart

TABLE OF CONTENTS

II. Identification of Need/Opportunity and Justification

According to the *Monarch Joint Venture*, a partnership of federal and state agencies, non-governmental organizations, and academic programs that are working together to protect the monarch migration across the lower 48 United States, monarchs can not survive without milkweed. Monarchs are one of Maine's major animal pollinators. Monarch caterpillars need milkweed plants (*Asclepias spp.*) to grow and develop, and female monarch butterflies only lay their eggs on milkweed from the landscape. Planting milkweed is a great way to help other pollinators too, as milkweed provides nectar resources to a diverse suite of bees and butterflies.

Without pollinators, our food supply is in jeopardy. In Maine, bees are important to both nature and the human diet, and especially for the production of fruits and nuts. Maine's 60,000 acres of Wild Blueberry barrens, alone, depend heavily on trucking in one billion or more honey bees annually to ensure a productive harvest. Sadly, honey bees have recently been challenged with multiple stressors, including starvation due to a lack of native forage. However, the news of Colony Collapse Disorder (CDC) seen in honey bees has created widespread awareness of the importance of bees and biodiversity. Enhancement of forage benefits native pollinators and commercial bee colonies, both of which our crops in Maine depend upon.

Many gardeners and farmers are eager to encourage beneficial insects on their land and are curious about honey bees and Maine's many species of wild native bees. Many pollinator-friendly plants are easy to grow, including milkweed. Milkweed is propagated by seeds, seedlings, and rhizome cuttings. Several species of milkweed are native to the Northeast region. The public's interest in creating pollinator gardens has created a demand for pollinator-friendly native plants.

With this new awareness and demand in the public sector for increased pollinator habitat, we believe the sales potential for milkweed is extremely positive. Orders for milkweed seed from some suppliers in Maine are already on backorder until February 2015, and many suppliers are simply sold out of Common Milkweed. There are currently few, if any, commercial milkweed seed producers in Maine.

III. Project Goals and Objectives

Peaked Mountain Farm's goal is to become a local Maine resource for milkweed seed, seedling, and rhizome cuttings. Our objective is to increase healthy habitat for pollinators which addresses the need for enhanced pollinator forage in the state of Maine. The end result will be increased food production and diversified landscapes, in other words, an enhanced ecosystem.

We will meet our objectives through placing 8.8 acres of land into dedicated milkweed seed production and developing a fully operational greenhouse dedicated to growing milkweed seedlings by spring of 2016.

IV. Deliverables

Peaked Mountain Farm will be a Maine based supplier of milkweed seeds, seedlings, and rhizome cuttings in full production by October 31, 2017.

We will host a promotional event at Peaked Mountain Farm open to the agricultural community, private sector, and landscapers:

- to demonstrate native pollinator habitat plantings
- to exhibit the value of native pollinator habitat in conjunction with a commercial agricultural crop
- to provide informational sessions by experts on native pollinators and native pollinator habitats
- to introduce the availability of milkweed to farmers, home gardeners, and commercial agricultural growers

We will also provide information and product availability:

- on our website and social media
- through electronic newsletters
- through targeted mailings and direct advertising
- press releases and public service announcements to the media

V. Innovation

Traditionally, milkweed is eradicated from agricultural crop fields, such as the wild blueberry. We intend to show how commercial crops can be grown in conjunction with milkweed, resulting in an enhanced ecosystem, improved crop pollination, and, at the same time, producing an agricultural product which is in high demand--milkweed seeds. The added bonus is that this product may prevent the extinction of monarch butterflies.

Our milkweed production will take place on marginal land that is underutilized and will create a revenue resource where one currently does not exist.

VI. Degree of Risk

Throughout history, since 1868, this farm has naturally supported both milkweed and wild blueberry occurring naturally in its soils. Common Milkweed is a perennial herb growing from a deep rhizome. Maine's low bush Wild Blueberry is also a rhizome based plant. Both of these plants benefit from the same commercial practices of mowing and/or burning.

Common Milkweed is easily propagated and usually flowers by its second year, this is also when its root system is well enough established that the plant can survive on its own. From that point on, it can be worked into agricultural crop production cycles. It flowers annually, providing food and habitat to encourage pollinator population.

The likelihood of success for this project on our farm is high as milkweed grows here naturally alongside our wild blueberries. Rather than expend resources to remove milkweed from it's natural habitat, we will encourage its growth in marginal areas and harvest its seed to sell as an additional agricultural product, thereby diversifying our market. Also, we will be working with nature instead of against it.

As milkweed can invade crop areas, the risk of spreading the milkweed to areas we do not desire it to grow in can be minimized by the careful and timely harvesting of its seed pods to prevent unwanted airborne dispersal of seed.

VII. Project Methodology and Schedule

Our project plan will be to establish commercial production capability of Common Milkweed and Butterfly Weed in 2015. To accomplish this, we will do the following:

- Complete the setup of our greenhouse for production of milkweed plugs.
- Harvest seed from our existing crop of Common Milkweed to expand our acreage in Common Milkweed.
- Purchase Butterfly Milkweed seed and plant 4 acres.
- Layout and design seed packaging.
- Setup and maintain dedicated page on our website promoting benefits of milkweed plantings for both the Monarch butterfly and native pollinators.
- Cut woody plants from milkweed planting areas to reduce competition for the new plantings.
- Establish pollinator habitat demonstration gardens.
- Have our milkweed certified as organic by MOFGA.
- Vernalize milkweed seed harvested for use in 2016.

In 2016, we continue to expand our commercial production capability of both common milkweed and butterfly weed by completing the following:

- Harvest both Common Milkweed and Butterfly Weed for use at the 2017 Maine Ag Trade show and in school demonstration kits.
- Commence greenhouse production of milkweed plugs for on farm expansion to a total of 8.8 acres in milkweed production.
- Maintain wed site promoting benefits of milkweed plantings for both the Monarch Butterfly and native wild pollinators.
- Vernalize harvested seeds for use in 2017.

In 2017, we will promote and sell both Common Milkweed and Butterfly Weed to small farmers, consumers, and the agricultural community through the following methods:

- Attend and exhibit at the Maine Agricultural Trade Show to promote the use of milkweed as a pollinator enhancement and production of milkweed seed as possible crop.
- Host our on-farm promotional event in the spring to establish sales of milkweed seeds and plugs.
- Distribute free-to-schools seed growing kits in the spring.
- Harvest seed from our existing crop of Common Milkweed and Butterfly Weed for continued sales of both milkweed seed and plugs.
- Vernalize harvested seeds for use/sale in 2018.

Based on these promotional efforts we expect to sell/introduce 5,000 organic milkweed seed packets into the market as a means of diversifying the products available from our farm and insuring our farms sustainability into the future. The expected sale of 5,000 seed packets into the retail market @ $3.95 will generate $19,750 in increased revenue for our farm in this first year of sales.

With these promotional efforts, we expect to establish increased awareness of the need for milkweed as a means of protecting the endangered Monarch Butterfly which, at the same time, is a means of providing a nectar source for many other wild pollinators as well, thereby enhancing future sales potential well into the future. Many consumers have an emotional attachment to the Monarch Butterfly and their desire to protect the single plant required for the Monarch's survival will translate into increased sales, more so than any other potential crop. This fact is born out by the difficulty to obtain seed for many types of milkweed due to the seed simply being sold out.

VIII. Key Personnel and Project Management

Daniel B. VanWart, owner/partner, Peaked Mountain Farm
Maine native with 12 years of farming and beekeeping experience at Peaked Mountain Farm in Dedham, Maine. Has served in the U.S. Navy and holds a Bachelors degree in Paralegal Studies. Employment history off-farm includes the Law offices of Roberta Kuriloff, the Veterans' Administration, the State of Maine Department of Health and Human Resources.

- In charge of overall farm field operations
- In charge of overall farm financial/legal management
- In charge of overall product production

Gail J. VanWart, owner/partner, Peaked Mountain Farm
Fourth generation farm owner raised on Peaked Mountain Farm in Dedham, Maine. An accomplished author, publisher, artist/illustrator, graphic designer and communications consultant. Work off-farm includes the U.S. Navy's Morale, Welfare and Recreation Department, Eastern Maine Healthcare Systems (EMHS), and independently as Out of the Blue LLC.

- In charge of overall marketing/promotional/public relations communications and materials (including press releases and media relations)
- In charge of overall product packaging development and website design/maintenance

IX. Budget/Budget Narrative

BUDGET WORKSHEET			
OBJECT CLASS CATEGORIES			
	a. Personnel		$ 12,900.00
	b. Fringe Benefits		
	c. Travel		
	d. Equipment		1,0751.00
	e. Supplies		6,826.74
	f. Contractual		
	g. Construction		
	h. Other		19,450.00
	i. Total Direct Charges (sum of 6a-6h)		49,927.74
	j. Indirect Charges		DEPARTMENT DOES NOT ALLOW FOR INDIRECT CHARGES FROM THE APPLICANT.
	k. TOTALS (sum of 6i and 6j)		49,927.74
PROGRAM INCOME	2017 estimated sales of seed packets		19,750.00

Our project will be incurring costs under four budget categories, personnel, equipment, supplies, and other.

Personnel costs will be offered in-kind as follows: We will provide the initial layout and design of four product labels, one ounce packets and 100-seed packets for both Common Milkweed and Butterfly Weed, and production/printing of 5,000 of these labels $4800. We will provide 60 hours in-kind seed harvesting and packing labor for 5,000 100-seed packets @ $15/hr = $900. We will provide in-kind website design and maintenance for three year contract period @ $3,600. We will provide in-kind milkweed seed planting labor for 8.8 acres @ $3,600.

Equipment purchased will be two Par Aid HIO Hole Cutters, at a cost of $668 each, to cut through blueberry sod for planting milkweed, one Stihl FS 560 C-EM brush cutter $675 to keep woody plants back from milkweed plantings, and for an in-kind $2,700 existing/erected 26 x 32 high tunnel greenhouse with in ground anchoring system, the polycarbonate covering, propagation tables, lighting, and watering system totaling $5,600. Two OHAUS CS Compact Scales @ $110 each = $220.

Supplies purchased will be 5,000 2"x4" blank labels for our Primera LX400 label printer $499.99 and 5 ink cartridges @ $54.95 = $274.75. We will also purchase eight pounds of Butterfly Weed seed @ $355 = $2,840. We will provide one pound of Common Milkweed seed averaging 5,500 seeds per ounce or 88,000 seeds per pound. Each packet of seeds will contain 100 seeds producing 880 packets at a retail price of $3.95 minus packaging costs of .30 each = $3,212.

Items under the budget category **Other** are as follows: for the on-farm promotional event advertising, informational sheets/giveaways, and porta-pottie rentals totaling $3,600. Two pollinator demonstration gardens will be installed at a cost of $3,400. Installation/hook-up and antifreeze for biomass boiler $3,900 for greenhouse. 150 free-to-schools milkweed seed growing kits at a cost of $3,500. Seed sellers license from the State of Maine, $50. Tradeshow costs for the Maine Agricultural Tradeshow to include entrance fees, informational sheets/giveaways, advertising/promotion for a total of $3,200. Descriptive signage $1,800.

X. Supporting Documentation

A. Excerpt from Peaked Mountain Farm's Forestry Plan

MAP 4 LOTS 1 & 1-1, NRCS EQIP 2012 Contract # 741218121RF
Planning Period DECEMBER 6, 2012 TO DECEMBER 6, 2022
FSA TRACT # Farm 1236, Tract 1825, 143 Forested Acres
December 1, 2012
Prepared by Kevin Allcroft LPF 984, TSP-12-8450
Forestree Concepts, 68 Snows Corner Road, Orrington, Maine 04474

OWNER OBJECTIVES

The owner's objectives for this land are:

- manage for the growth and harvest commercial forest products, including firewood while increasing volume of sawlogs
- improve or maintain wildlife habitat by maintaining a diversity of flora and fauna
- maintain or improve soil, water and aesthetics
- maintain and increase recreational opportunities on the woodlot,
- increase trail access to as much of property as possible
- maintain visual aesthetic qualities in all activities
- plant basswood trees

B. Excerpt from Peaked Mountain Farm Pollinator Plan

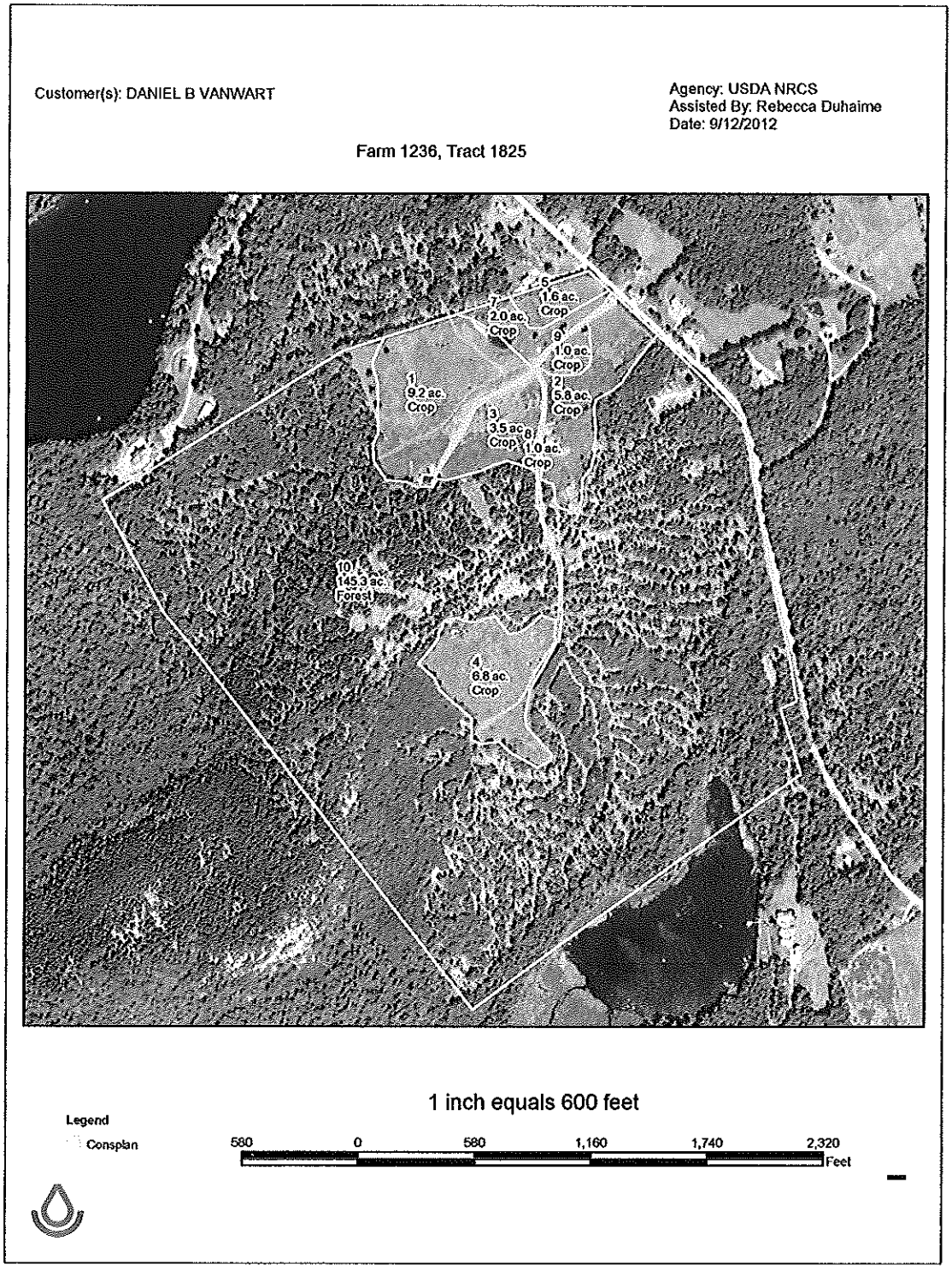
POLLINATOR HABITAT ENHANCEMENT PLAN - Peaked Mountain Farm
11 December 2012
Prepared by Alison C. Dibble, Ph.D., Technical Service Provider # 10-6986,
Stewards LLC, P.O. Box 321, Brooklin, ME 04616

This site-specific Pollinator Habitat Enhancement Conservation Plan has been developed under EQIP Contract # 741218121RC for the owners of Peaked Mountain Farm, Tract 1825, to address the improvement, restoration, enhancement, and expansion of flower-rich habitat and to increase nest habitat that supports native wild pollinators and/or managed pollinators. The plan was developed by Alison C. Dibble, Ph.D., Stewards LLC, who is a certified Technical Service Provider (TSP) specializing in pollinator habitat resources. Funding support was provided in accordance with Section 1240(A), the Environmental Quality Incentive Program (EQIP) program. The TSP has followed criteria located on the TSP registry (TechReg) web site at: http:techreg.usda.gov/

SUMMARY
This Conservation Plan focuses on wildlife habitat for pollinators -- native wild bees, managed bees, butterflies and other animals that visit flowers. A conservation plan is a prerequisite for NRCS cost-share for installation of Conservation Practices related to Pollinator Habitat Enhancement, and was prepared for and with the owners of Peaked Mountain Farm by Alison C. Dibble, Ph.D., Technical Service Provider, whose background includes plant conservation biology, invasive plants, conservation planning, and pollinator interactions. The underlying motivation of this plan is to protect pollinators, without which crop production for lowbush blueberries, other fruits, squashes, and seed (herbs, etc.) could be greatly reduced. Recognition of the importance of pollinators accompanies a decline in managed honey bees in many states, including Maine. Peaked Mountain Farm (Farm 1236, Tract 1825), a 180-acre MOFGA-certified organic farm in Dedham, Maine, has about 25 acres in fields and openings. Products include wild blueberry (a.k.a. lowbush blueberry, *Vaccinium angustifolium*) for mostly local markets. The goals of the owners for this plan include increase in blueberry yield, protection of biodiversity including pollinators, offering a potential demonstration of pollinator habitat enhancement including the woodlot, and expansion of small fruit production with revival of existing apple trees, planting of additional fruit trees, and development of a nursery that offers seedlings of woody plants among other materials. The owners have already educated themselves about the importance of pollinators and would like to conduct experiments at their farm to extend beyond what is already
known.

Current conditions for pollinators at the farm are very good to excellent, with a variety of vegetation, floral resources over the growing season, and especially lack of inputs of chemicals that have potential to harm bees. No pollinator limitation has been documented at the farm. In recent years (since 2004) the owners have observed a gradual increase in bee abundance on flowers.

C. USDA NRCS Site Map of Peaked Mountain Farm



D. Milkweed Regions & Seed Needs (with map)

There are 73 species of native milkweeds in the United States. Many of these species are rare, threatened, and endangered. Monarchs utilize about 30 of these species as host plants with some regularity. Please use the map to see which milkweed seed is needed in your region.

Northeast: Ecoregions 212 (east of Lake Huron), M212, 221 & M221
Seeds needed for all of the Northeast: A. incarnata, A. tuberosa, A. exaltata, A. verticillata, A. viridiflora

A. syriaca is needed for the following states in Ecoregion 221 – MN, MI, WI, KY, TN

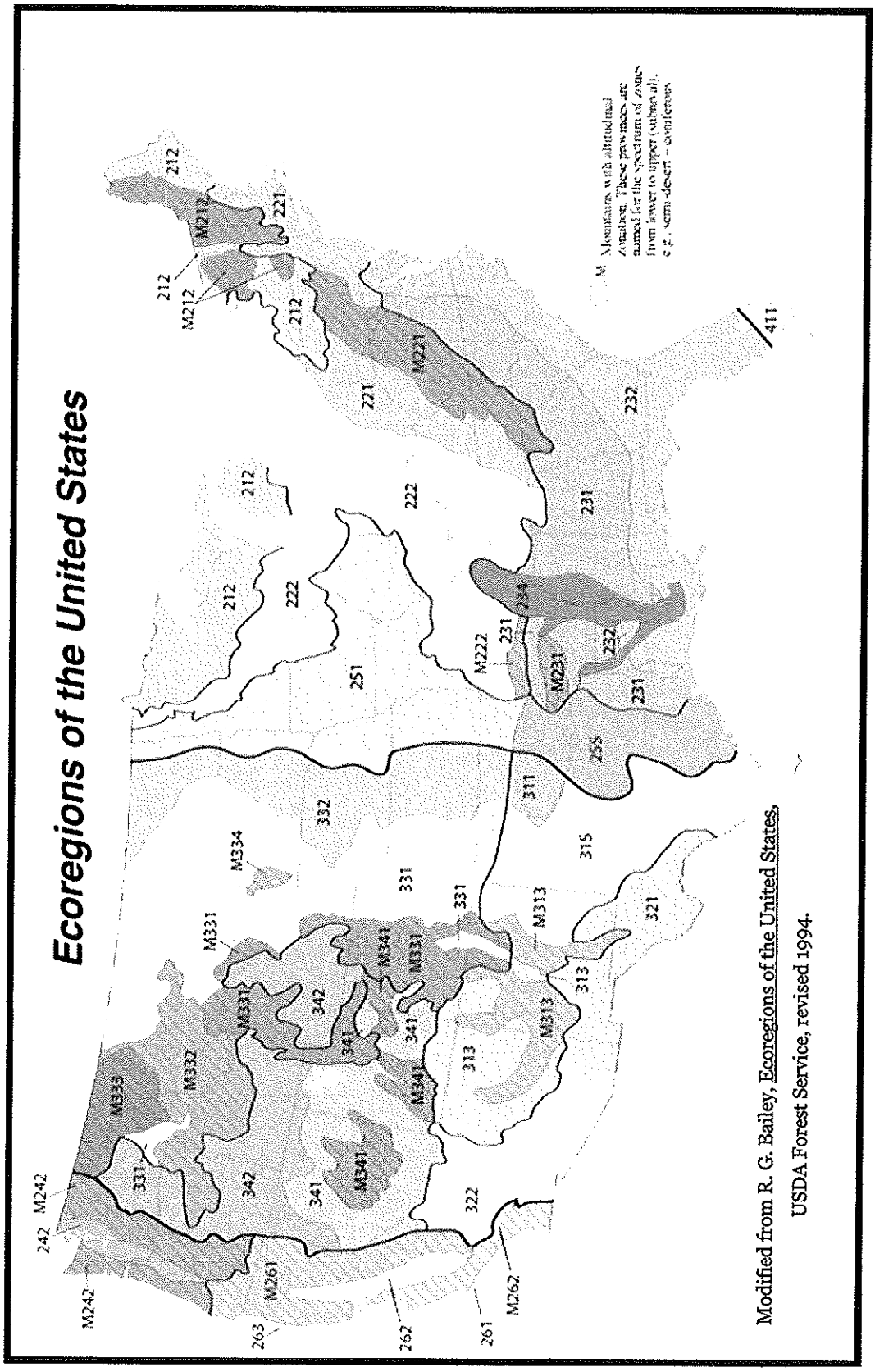
The Northeast region extends from the east coast north of the 36th parallel and west to the 100th meridian. This region is the main summer breeding area for monarchs in the eastern United States. The main monarch host plant is Asclepias syriaca (common milkweed). Other species used by monarchs, in order of their abundance and preference, are A. incarnata (swamp milkweed), A. tuberosa (butterflyweed), A. verticillata (whorled milkweed), and A. exaltata (poke milkweed).

Southeast: Ecoregions M222, 231, M231, 232, 234, & 411
Seeds most needed for the Southeast: A. tuberosa and A. incarnata
Ecoregion 231 – A. syriaca in VA and NC only.
Ecoregion 232– A. humistrata (south of VA only),
Florida 232 – A. perennis and A. verticillata
Ecoregion 234 – A. perennis (Lower Mississippi River valley)

The most widespread and easiest milkweeds to grow in this region are, A. tuberosa (butterflyweed), A. incarnata (swamp milkweed). A. viridis (green antelopehorn) occurs west of the Mississippi. A. verticillata (whorled milkweed) does not grow in the lower Mississippi Valley and is more common in FL and central VA and NC. In the southern portion of the region, A. variegata (white milkweed) is highly sought after for its appearance and behavior. A. perennis (aquatic milkweed) occurs only in hydrated soils. Asclepias humistrata (sandhill/pinewoods milkweed) is recommended for some regions of Florida.

Information provided by: Monarch Watch, a nonprofit educational outreach program based at the University of Kansas that focuses on the monarch butterfly, its habitat, and its spectacular fall migration.

*www.monarchwatch.*org


Ecoregions of the United States
M Mountains with altitudinal zonation. These provinces are named for the spectrum of zones from lower to upper (where all, e.g., semi-desert – coniferous
Modified from R. G. Bailey, Ecoregions of the United States.
USDA Forest Service, revised 1994.